

# Washer-Extractors

Cabinet Freestanding

Refer to Page 5 for Model Identification

— **Installation/Operation/Maintenance** —

**Original Instructions**

**Keep These Instructions for Future Reference.**



[www.alliancelaundry.com](http://www.alliancelaundry.com)

Part No. D1598ENR5  
August 2015



# Contents

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# Contents

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## Replacement parts

If literature or replacement parts are required, contact the source from which the machine was purchased or contact Alliance Laundry Systems at +1(920)748-3950 for the name and address of the nearest authorized parts distributor.

## Customer service

For technical assistance, contact your local distributor or contact:

Alliance Laundry Systems

Shepard Street

P.O. Box 990

o Ripon, Wisconsin 54971-0990

U.S.A.

[www.alliancelaundry.com](http://www.alliancelaundry.com)

Phone: +1(920)748-3121

Ripon, Wisconsin

+32 56 41 20 54

Wevelgem, Belgium

# Contents

## Model identification

Information in this manual is applicable to these models:

HY20_HC-200	SY20_QED	SYQ065D	UY20_PROFORM
HY25_HC-200	SY20_QED-SELECT	SYQ080D	UY25_PROFORM
HY30_HC-200	SY25_QED	SYQ105D	UY30_PROFORM
HY40_HC-200	SY25_QED-SELECT	SYQ135D	UY40_PROFORM
HY55_HC-200	SY30_QED	SYQ180D	UY55_PROFORM
HY65_HC-200	SY30_QED-SELECT	SYQ240D	UY65_PROFORM
HY70_HC-200	SY40_QED	SYQ280D	UY70_PROFORM
HY80_HC-200	SY40_QED-SELECT	SYN020D	UY80_PROFORM
HY105_HC-200	SY55_QED	SYN025D	UY105_PROFORM
HY135_HC-200	SY55_QED-SELECT	SYN030D	UY135_PROFORM
HY180_HC-200	SY65_QED	SYN040D	UY180_PROFORM
HY240_HC-200	SY65_QED-SELECT	SYN055D	UY240_PROFORM
HY280_HC-200	SY70_QED	SYN070D	UY280_PROFORM
HYB180F	SY70_QED-SELECT	SYU065A	UYB180I
HYN020F	SY80_QED	SYU065D	UYG065I
HYN025F	SY80_QED-SELECT	SYU080A	UYG080I
HYN030F	SY105_QED	SYU080D	UYG105I
HYN040F	SY105_QED-SELECT	SYU105A	UYG135I
HYN055F	SY135_QED	SYU105D	UYG180I
HYN070F	SY135_QED-SELECT	SYU135A	UYG240I
HYG065F	SY180_QED	SYU135D	UYG280I
HYG080F	SY180_QED-SELECT	SYU180A	UYN020I
HYG105F	SY240_QED	SYU180D	UYN025I
HYG135F	SY240_QED-SELECT	SYU240A	UYN030I
HYG180F	SY280_QED	SYU240D	UYN040I
HYG135F	SY280_QED-SELECT	SYU280A	UYN055I
HYG180F	SYB180A	SYU280D	UYN070I
HYG240F	SYB180D	SYW065A	UYQ065I
HYG280F	SYG065A	SYW065D	UYQ080I
HYQ065F	SYG065D	SYW080A	UYQ105I
HYQ080F	SYG080A	SYW080D	UYQ135I
HYQ105F	SYG080D	SYW105A	UYQ180I
HYQ135F	SYG105A	SYW105D	UYQ240I
HYQ180F	SYG105D	SYW135A	UYQ280I
HYQ240F	SYG135A	SYW135D	UYU065I
HYQ280F	SYG135D	SYW180A	UYU080I
HYU065F	SYG180A	SYW180D	UYU105I
HYU080F	SYG180D	SYW240A	UYU135I
HYU105F	SYG240A	SYW240D	UYU180I
HYU135F	SYG240D		UYU240I
HYU180F	SYG280A		UYU280I
HYU240F	SYG280D		UYW065I
HYU280F	SYQ065A		UYW080I
HYW065F	SYQ080A		UYW105I
HYW080F	SYQ105A		UYW135I
HYW105F	SYQ135A		UYW180I
HYW135F	SYQ180A		UYW240I
HYW180F	SYQ240A		
HYW240F	SYQ280A		

# Safety Precautions

## Safety precautions



### **WARNING - SAVE THESE INSTRUCTIONS FOR LATER USE.**

Failure to comply with the instructions may lead to incorrect use of the appliance, and may result in risk of fire, bodily injuries or death and/or damage to the laundry and/or the appliance.



**WARNING - Read the IMPORTANT SAFETY INSTRUCTIONS in this manual carefully before operating the appliance. Improper use of the appliance may cause risk of fire, electrical shock or serious body injuries or death as well as serious damage to the appliance.**

- ◆ This English version is the original version of this manual. Without this version, the instructions are incomplete.
- ◆ Before installation, operation and maintenance of the machine read carefully the complete instructions, i.e. this "Installation, maintenance and user's manual", "Programming manual" and "Spare parts manual".  
The Programming manual and Spare parts manual are not delivered with a machine by default. You shall ask the supplier / manufacturer to obtain Programming manual and Spare parts manual.
- ◆ Follow the instruction written in manuals and keep the manuals in a proper place by the machine for later use.
- ◆ Safety instructions included in manuals for personnel operating the appliance must be printed and posted on a visible place near the machine in the laundry room.
- ◆ The washer extractor is designed for fabrics washing only, other objects can damage the washer and can cause damage or injuries.
- ◆ If the machine is used for special applications follow the instructions and warning to avoid person injury.
- ◆ The manufacturer is not responsible for the damage to the fabrics that are washed by an inappropriate washing method.
- ◆ Always follow the instructions and/or warnings that are stated on the fabrics, washing products or cleaning products mentioned by the manufacturer.
- ◆ The washer must be set up in accordance with the instructions. All drain, inlet, electrical connections, ventilation, groundings and other connections must be done in according to the installation manual, in compliance with the local standards done by qualified technicians with proper authorization.
- ◆ The valid standards for connecting to the local power network (TT,TN,IT,...) must be followed.  
In the standard execution, the appliance may not be suitable for connecting to an IT supply system.  
Contact your commercial distributor for assistance.
- ◆ All appliances are produced according the EMC-directive (Electro-Magnetic-Compatibility). They can be used in restricted surroundings only (comply minimally with class A requirements). For safety reasons there must be kept the necessary precaution distances with sensitive electrical or electronic device(s).
- ◆ Do not change the parameters of the frequency inverter. This can cause serious injury, fire, washer damage, etc.
- ◆ During transportation and storage never use excessive forces on the packing because components can be damaged protruding the contour line of the appliance.
- ◆ Use copper conductors only. This appliance must be connected to a supply circuit to which no lighting units or general-purpose receptacles are connected.
- ◆ Any changes concerning the installation which are not described in this Installation Manual must be approved by the supplier or manufacturer. Otherwise, the supplier and manufacturer are not responsible for potential injuries to operators or for any damages. Interventions in the appliance execution or functions are not allowed, and the manufacturer refuses any responsibility in such cases.
- ◆ The washer extractor must be installed on level. If not, the washer may become unbalanced during extraction and, although fitted with an unbalance safety, the washer may become seriously damaged what may result in bodily injuries.
- ◆ Never put the washer in operation when the transporting braces are not removed. The washer should always be tested before use.
- ◆ It is possible that there are residues of products used during the production process in the new washer. These residues could cause stains on your laundry. Therefore, you must first run at least 1 hot wash with old rags before using for your normal laundry.
- ◆ Keep the appliance top and surface and the area around clean and clear of combustible or flammable products.
- ◆ The use of hypochlorite will cause corrosion which may cause component failure under certain circumstances.
- ◆ The warranty of the machine cannot be accepted in case corrosion was caused by chlorine and chlorine compounds impact.
- ◆ The washer extractor is not designed for work which may create an explosive atmosphere inside the machine and will not be used for this purpose.
- ◆ Do not expose the washer extractor to the weather, extreme low or high temperature and humidity.
- ◆ Do not store flammable materials around the appliances. Define the dangerous areas in the laundry room and obstruct an admission to them during appliances operating.

# Safety Precautions

- ◆ Do not wash articles that have been previously cleaned in, wash in soaked in, or spotted with gasoline, dry-cleaning solvents, or other flammable or explosive substances as they give off vapors that could ignite or explode. Such fabrics must first be washed by hand and air dried.
- ◆ Do not add gasoline, dry-cleaning solvents, or other flammable or explosive substances to the wash water. These substances give off vapors that could ignite or explode.
- ◆ Under certain conditions, hydrogen gas may be created in the hot water system that has not been used for two or more weeks. HYDROGEN GAS IS EXPLOSIVE. If the hot water system has not been used for such period open all hot water taps and let the water run out for few minutes. This will release any accumulated gas. As this gas is flammable, do not smoke or use open flames during this time.
- ◆ TEMPERATURE IN WASHING MACHINE TUB: The electronic controller uses the temperature sensor in the tub to control the temperature of the washing bath. There are a lot of things that have influence on the temperature measurement. Therefore the temperature control of the washing bath is not very precise.
- ◆ Always strictly comply with the instructions that are written on the laundry chemicals-, laundry aids-, dry-cleaning solvents- and disinfectants packaging to avoid personal injury. Keep these agents out of the reach of children, preferably in a locked cabinet.
- ◆ Do not tamper the washer-extractor controls and do not bypass the safety instructions and the warnings.
- ◆ By danger turn off the main switch or other emergency disconnection devices.
- ◆ Do not put some part on the soap dispenser lid to hold it open by filling or when the machine operates. Do not open the soap dispenser lid after the machine is started. The discharge or splashing of hazardous liquid can cause serious scalding and burning.
- ◆ Do not operate the appliance when parts are broken or missing or when covers are open. The appliance must not be operated until the fixed guards are put correctly in place.
- ◆ The appliance must not be stored, installed or exposed to the weather, extreme low or high temperature and humidity levels. Do not hose down the washer. NEVER allow the appliance to get wet.
- ◆ Check the functioning of the door lock mechanism on regular base. NEVER bypass the doorlock mechanism.
- ◆ Disconnect the power and close all water and steam supply before cleaning, servicing and at the end of each operating day.
- ◆ Out of the venting at the back of the washer can escape warm vapor or and hot air. Do not cover the vent but protect it sufficiently. It serves air gap and as a vapor outlet to prevent pressure building in the washer.
- ◆ Do not repair or replace any part of the appliance or attempt any servicing unless specifically recommended in the service manual or published user-repair instructions that you understand and have the skills to carry out. Only qualified service personnel may open the appliance to carry out servicing.
- ◆ Information contained in this manual is intended for use by a qualified service technician familiar with proper and safe procedures to be followed when repairing an electrical appliance. All tests and repairs should be performed by a qualified service technician equipped with proper tools and measuring devices. All component replacements should be made by a qualified service technician using only factory approved replacement parts.
- ◆ Improper assembly or adjustment may occur if service or repair is attempted by persons other then qualified service technicians or if parts other then approved replacement parts are used. Improper assembly or adjustment can create hazardous conditions.
- ◆ There can be a risk of injury or electrical shock while performing services or repairs. Injury or electrical shock can be serious or even fatal. Consequently, extreme caution should be taken while performing voltage checks on individual components or a product. PLEASE NOTE: Except as necessary to perform a particular in servicing a product, the electrical power supply should ALWAYS be disconnected when servicing a product.
- ◆ All industrial (OPL - On Premise Laundry) washers are designed for use in Laundry with professionally trained attendants.
- ◆ Before the appliance is removed from service or discarded, remove the door.
- ◆ Any Water or Steam Leaks Must Be Repaired Immediately. Closed supply immediately.
- ◆ If any problems or failures should arise, immediately contact your dealer, serviceman or manufacturer.
- ◆ The manufacturer reserves the right to change the manuals without previous notice.
- ◆ Norm IEC335 is applied for machines with a net usable cage volume between 60 and 150 l. Norm EN60204-1 is used for a net usable cage volume above 150 l.

## Safety Precautions

### WARNING

IF THE INSTALLED APPLIANCE OPERATE WITH COIN, TOKEN OR SIMILAR OPERATION FOR USE IN SELF-SERVICE SITUATIONS, THEN THE OWNER-INSTALLER MUST PROVIDE A REMOTE-LOCATED EMERGENCY STOP DEVICE. THIS DEVICE MUST BE PLACED IN SUCH A WAY THAT IT IS EASY AND SAFELY ACCESSIBLE FOR THE USERS. THE EMERGENCY STOP DEVICE TAKES CARE THAT AT LEAST THE CONTROL CIRCUIT OF THE APPLIANCE IS INTERRUPTED.

### WARNING

DO NOT TOUCH THE DOORGLASS UNTIL CYCLE HAS BEEN COMPLETED. DO NOT OPEN DOOR UNTIL CYLINDER REMAINS STOPPED AND WATER HAS BEEN DRAINED FROM CYLINDER. DO NOT PUT ARTICLES SOILED WITH EXPLOSIF SOLVENTS AND/OR DANGEROUS CHEMICAL PRODUCTS IN THE MACHINE. THIS MACHINE SHOULD NOT BE USED BY CHILDREN. DO NOT LET CHILDREN PLAY IN, ON, OR AROUND THE MACHINE. BEFORE TURNING THE MACHINE "ON", MAKE SURE THAT THERE ARE NO PEOPLE OR ANIMALS PRESENT IN OR AROUND THE MACHINE.

### WARNING

ORIGINAL OR IDENTICAL PARTS MUST BE USED FOR REPLACEMENT IN THIS MACHINE. AFTER SERVICING REPLACE AND SECURE ALL PANELS IN THE ORIGINAL WAY. TAKE THESE MEASURES FOR CONTINUED PROTECTION AGAINST ELECTRICAL SHOCK, INJURY, FIRE AND/OR PROPERTY DAMAGE.

### WARNING

THIS APPLIANCE MUST BE CONNECTED TO A GROUNDED METAL, PERMANENT WIRING SYSTEM, AND ADDITIONALLY AN EQUIPMENT-GROUNDING CONDUCTOR MUST BE RUN WITH THE CIRCUIT CONDUCTORS AND CONNECTED TO THE EQUIPMENT-GROUNDING TERMINAL OR LEAD ON THE APPLIANCE.

### WARNING

IN ORDER TO MINIMIZE THE RISK OF FIRE, ELECTRICAL SHOCK AND INJURY, THIS WASHER MUST BE PROPERLY GROUNDED. NEVER PLUG IN OR DIRECT-WIRE AN APPLIANCE UNLESS IT IS PROPERLY GROUNDED IN ACCORDANCE WITH ALL LOCAL AND NATIONAL CODES. IF MORE APPLIANCES IN THE SAME LOCATION, MUTUAL GROUNDING MUST BE APPLIED WHERE POSSIBLE.

### WARNING

ALWAYS CONSULT THE STATIC REQUIREMENTS WITH A STATIC ENGINEER IN ORDER TO MEET THE REQUIREMENTS OF PERMISSIBLE LOADS, VIBRATIONS AND NOISE LEVEL IN THE BUILDING! THE WASHER EXTRACTOR IS INTENDED TO BE PERMANENTLY CONNECTED, IT MUST BE SECURED MOUNTED TO A NON-COMBUSTIBLE, ADEQUATE FLOOR STRUCTURE. NEVER INSTALL THE WASHER ON A BASEMENT WITHOUT A LOAD SUPPORT DESIGNED BY A STRUCTURAL ENGINEER.

### WARNING

ALTHOUGH THE APPLIANCE MAY BE IN THE "OFF" POSITION, THERE IS STILL ELECTRICAL POWER TO THE SWITCH SUPPLY TERMINALS.



## Safety Precautions

### WARNING

WHEN POWER SUPPLY HAS BEEN SWITCHED OFF WAIT FOR AT LEAST 10 MINUTES BEFORE STARTING INSPECTION OR SERVICING THE WASHER. BEFORE STARTING INSPECTION OF FREQUENCY INVERTER, CHECK FOR RESIDUAL VOLTAGE ACROSS MAIN CIRCUIT TERMINALS + AND -. THIS VOLTAGE MUST BE BELOW 30 VDC BEFORE YOU CAN ACCESS THE INVERTER FOR INSPECTION.

### WARNING

DO NOT ALLOW CHILDREN TO PLAY ON, IN OR AROUND THE APPLIANCE AT ANY TIME. CLOSE SUPERVISION OF CHILDREN IS NECESSARY WHEN THE APPLIANCE IS USED NEAR CHILDREN. NEVER PERMIT CHILDREN TO OPERATE THE APPLIANCE.

### WARNING

IF THE DOOR SAFETY LOCK DOES NOT WORK, DO NOT USE WASHER UNTIL THE DOOR LOCK MECHANISM IS REPAIRED.

### WARNING

FOLLOW ALL VALID BASIC SAFETY RULES AND LAWS. THE INSTRUCTIONS IN THIS MANUAL CANNOT ACCOUNT FOR EVERY POSSIBLE DANGEROUS SITUATION. THEY MUST BE GENERALLY UNDERSTOOD. CAUTION AND CARE ARE FACTORS WHICH CAN NOT INCLUDED IN THE DESIGN OF THE APPLIANCE AND ALL PERSONS WHO INSTALL, OPERATE OR MAINTAIN THE APPLIANCE MUST BE QUALIFIED AND FAMILIAR WITH THE OPERATING INSTRUCTIONS. IT IS UP TO THE USER TO TAKE PROPER CARE WHEN OPERATING THE APPLIANCE.

### WARNING

DO NOT REMOVE WARNING SIGNS PLACED ON THE APPLIANCE. OBSERVE SIGNS AND LABELS TO AVOID PERSONAL INJURIES. SAFETY LABELS APPEAR AT CRUCIAL LOCATIONS ON THE APPLIANCE. FAILURE TO MAINTAIN LEGIBLE SAFETY LABELS COULD RESULT IN INJURY TO THE OPERATOR OR SERVICE TECHNICIAN.

### CAUTION!

#### MACHINE WITH WEIGHING SYSTEM:

NEVER CARRY LOAD SENSORS BY THEIR CABLES!

AVOID ELECTRIC WELDING NEAR THE LOAD SENSORS!

AN IMPACT MIGHT CAUSE PERMANENT DAMAGE TO THE LOAD SENSORS! AVOID UNEQUAL LOAD DISTRIBUTION BETWEEN THE LOAD SENSORS WHEN PUTTING THE MACHINE DOWN.

WHEN THE POWER OF THE MACHINE IS SWITCHED ON, THE SYSTEM NEEDS A 10-MINUTES WARM-UP TIME. THIS IS IMPORTANT WHEN THE POWER HAS BEEN OFF FOR MORE THAN FIVE MINUTES. IGNORING WARM-UP MIGHT RESULT IN A MAJOR ERROR IN WEIGHING.

### WARNING

THE RECYCLING TANK MUST BE INSTALLED BY QUALIFIED AND AUTHORISED TECHNICIANS ONLY. THE INSTALLATION MUST BE DONE IN ACCORDANCE WITH ALL LOCAL STANDARDS AND REGULATIONS.

# Operation

## Operation

### Symbols on the machine



Caution, dangerous electrical tension, electrical devices



Caution, other danger, read and follow written instructions



Caution - Increased temperature



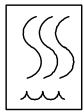
Do not close or cover



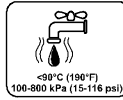
The machine hot air outlet



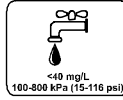
In case of emergency press the emergency button to stop the machine



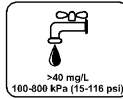
Steam



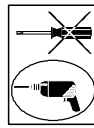
Warm water inlet  
(red color of the label)



Soft cold water inlet  
(light blue color of the label)



Hard cold water inlet  
(dark blue of the label)



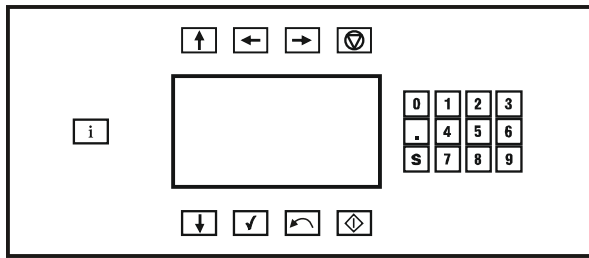
The holes to be drilled not punched

531400

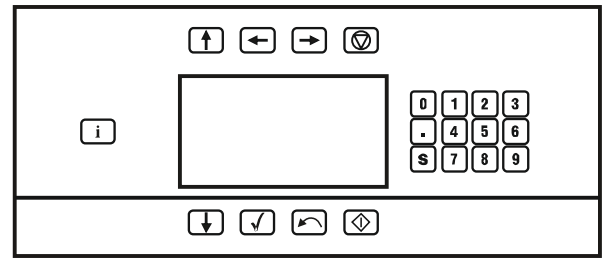
# Operation

## Version with numerical keypad

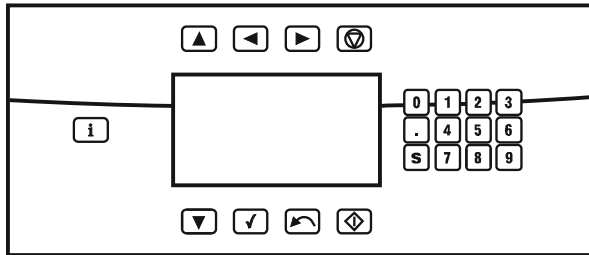
HY models



SY model



UY models



558491



**START**  
(ADVANCE function)



**STOP** (program interruption)



**CONFIRM THE SELECTION**



**CANCEL THE SELECTION**



**MOVE UP**



**MOVE DOWN**



**SELECTION NO**  
**DECREASING THE TIME SEQUENCE**



**SELECTION YES**  
**INCREASING THE TIME SEQUENCE**



**INFO**  
(overview of available wash programs  
and program information)



**SERVIS** (servicing information)

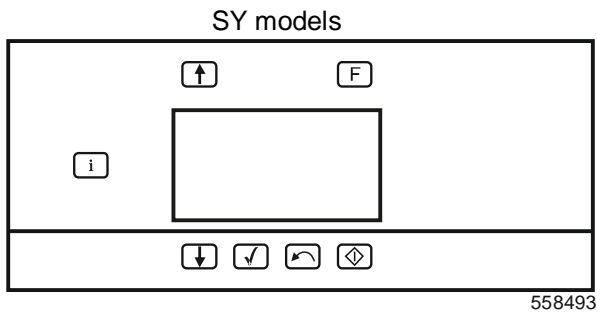


**DELAYED START FUNCTION**  
(the delay starts running upon  
the pressing of the "start" button)

**0 to 9** **NUMERIC KEYPAD**  
558494

# Operation

## Version without numerical keypad



**START**  
(**ADVANCE** function for the **OPL version**) (1)



**CONFIRM THE SELECTION**



**CANCEL THE SELECTION**



**MOVE UP**



**MOVE DOWN**



**SELECTION OF ADDITIONAL FUNCTIONS**



### INFO

OPL version: program information  
Coin operated version: User's Manual

558492

(1) **OPL** version - washers are designed for professionally trained attendants.

# Operation

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## Before washing

- Sort the linen according on the temperature and the instructions of the manufacturer of the fabrics. Check if there aren't any strange objects between the linen like nails, screws, needles, etc. in order not to damage the washer-extractor or the linen. Turn sleeves of shirts, blouses, etc. inside out. To get a better washing result, you have to unfold the fabrics and mix the bigger and smaller pieces of fabrics.
- **CAUTION!**  
**The optimal washing load is determined by the filling factor. The proper filling factor is determined by the type of linen and other factors. Cotton textiles normally require a filling factor of 1:10-1:13, which is a full drum load. Put the linen in the drum depending on the maximum capacity of the washer. Do not overload the washer extractor. Overloading the machine can lead to a bad wash result. Half washing loads can obstruct a proper function. Synthetics and blended fabrics usually require a filling factor of 1:18-1:20, which is half drum load. Loading more will reduce the wash result and can damage the linen.**

## Opening the drum door

- Open the door by pulling on the door handle.

## Placing the laundry into the machine

- Insert the laundry into the drum.

## Closing the drum door

- Close the door by applying moderate pressure on the door handle and simultaneous partial turning of the door handle to the left. It is not necessary to turn the handle completely around. Otherwise slipping of the safety system would occur. When the machine is operating, the safety system serves as a protection against violent handling and the possibility of the door lock sustaining damage. Before you put the washing machine in operation make sure the door is closed properly.

## Program selections

- Choose one of the available wash programs, best corresponding to the quality of the garments and allowed wash temperature in the wash load.
  - The version **without numerical keypad** : choose the wash program by the arrow buttons.
  - The version **with numerical keypad** : enter the wash program number utilizing the numeric keypad.
  - The selection of the program determines the temperature and the time for washing and rinsing.
- **NOTE!**
  - For locking a program mode, changing factory settings and possibilities of program changes and setup - see Programming manual.

# Operation

## Wash programs overview

Wash program 1	Hot wash intensive	90°C	
Wash program 2	Warm wash intensive	60°C	
Wash program 3	Coloured wash intensive	40°C	
Wash program 4	Bright wash intensive	30°C	
Wash program 5	Woollens	15°C	
Wash program 6	Hot wash	90°C	ECONOMY level
Wash program 7	Warm wash	60°C	ECONOMY level
Wash program 8	Coloured wash	40°C	ECONOMY level
Wash program 9	Bright wash	30°C	ECONOMY level
Wash program 10	Eco hot wash	90°C	ECONOMY level
Wash program 11	Eco warm wash	60°C	ECONOMY level
Wash program 12	Eco color wash	40°C	ECONOMY level
Wash program 13	Eco bright wash	30°C	ECONOMY level
Wash program 14	Extraction		low speed
Wash program 15	Extraction		high speed
<b>Only with numerical keypad:</b> Wash program 16	Sport	60°C	
<b>Only with numerical keypad:</b> Wash program 17	Mops	60°C	
<b>Only with numerical keypad:</b> Wash program 18	Horse blankets	40°C	
<b>Only with numerical keypad:</b> Wash program 19	Jeans	60°C	
<b>Only with numerical keypad:</b> Wash program 20	Starching	-	

## Add detergents

- Fill the soap dispenser on the top of the washer extractor depending of the chosen program.



- Pre-wash in the soap dispenser  : detergent for the pre-wash.
- Main wash in the soap dispenser  : detergent for the main wash.
- Main wash in the soap dispenser  : liquid detergent for the main wash or liquid bleach etc.
- Fabric softener or starch in the soap dispenser  : liquid fabric softener or liquid starch for the last rinse.

### NOTE:

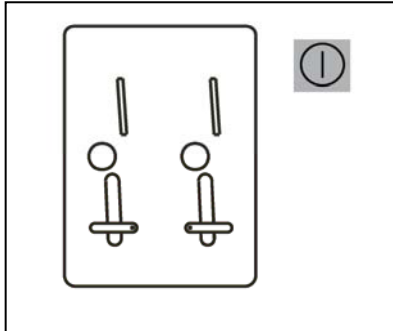
- It is advisable to use only detergents with “softener to break the suds”, which can easily be found in retail shops. Do not use gel detergents. The dosage of soap to use is generally mentioned on the packing. An overdose of detergent can lead to poor wash results and “suds”, overflow which can damage the machine.
- Take care that the lid of the soap dispenser is closed if the machine starts.

# Operation

## Start the washer

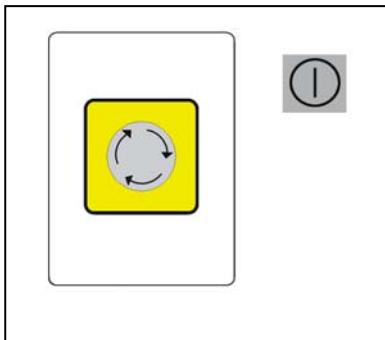
### Version without numerical keypad

#### Coin operated models



- Choose the required wash program. Insert the correct amount of coins in the slot - the sum must correspond to the selected program. The display shows the remaining sum to be paid. After the payment is done, the display prompts the user to start the program utilizing the **START** button.
- Push the **START** button to start the washer extractor. If you have by mistake chosen a different wash program, you can change the choice within the first 150 seconds utilizing the arrow buttons. When a more expensive washing program was chosen, the value will be shown to add. When you don't add more coins, the chosen program at the start will be executed.
- During the washing cycle you can follow the actual washing sequence and the remaining time on the displays.

#### Non-coin operated models

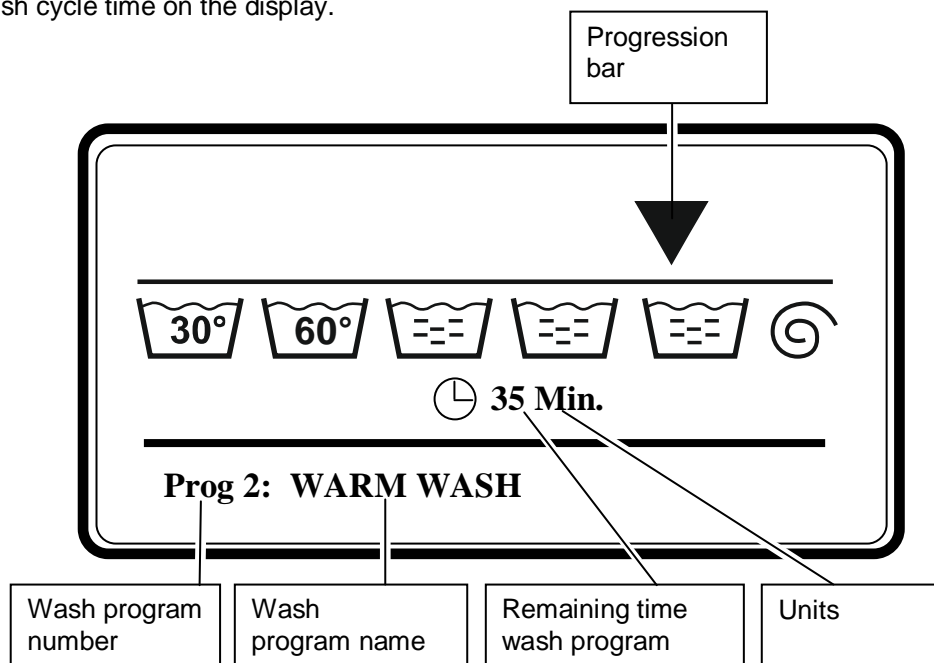


- Choose the required program. Press the **START** button to start the operation of the machine. If you have by mistake chosen a different wash program, you can change the choice within the first step utilizing the arrow buttons.
- During the washing cycle you can follow the actual washing sequence and the remaining time on the displays.
- If the machine operator has enabled the **ADVANCE** function, you can move to the next step by pressing the **START** button.

# Operation

## Version with numerical keypad

- After you have selected the required wash program, start the wash cycle by pressing the **START** button.
- If you enter a number that does not correspond to any of the available programs, the display shows the message **INVALID**. During the wash cycle the user can follow the progress of the wash sequence and the remaining wash cycle time on the display.



## End of wash cycle

- The wash cycle time is counted down to zero on the display. After the completion of the wash cycle, the door lock gets deactivated (it unlocks) and the display shows the message "**UNLOAD**". Open the door and remove the laundry from the machine. The message "**UNLOAD**" disappears and the machine is ready to start a new program. The "**SELECT CYCLE**" option is displayed.

### **⚠ WARNING!**

**IF, AFTER A POWER DISCONNECT, THE MACHINE DOOR CANNOT BE OPENED AND THE MACHINE IS FITTED WITH AN AUTOMATIC UNLOCKING CIRCUIT, WAIT UNTIL THE UNLOCKING CIRCUIT UNLOCKS THE DOOR LOCK. BEFORE YOU OPEN THE DOOR, MAKE SURE THAT THE DRUM IS COMPLETELY STILL AND THAT THE WATER HAS DRAINED FROM IT.**

## Power cut

### Version without numerical keypad

- If a power cut occurs in an idle condition of the machine and no wash program is running, the machine remains in the idle condition.
- If a power cut occurs during the wash process and the door remains closed and locked, the wash program will, after the power supply has been restored, automatically continue in the program beginning from the step in which the program was interrupted.
- **Machines fitted with an automatic door-lock unlocking module:**  
See the chapter: "Automatic door-lock unlocking module". If during the power cut the door lock gets unlocked and the door remains closed, the message "**PRESS START / OPEN DOOR**" appears as soon as the power supply is restored. If you open the door, the wash program will be cancelled. If you press the "**START**" button, the wash program will continue beginning from the step in which the program was interrupted.



# Operation

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## Version with numerical keypad

- If a power cut occurs in an idle condition of the machine and no wash program is running, the machine remains in the idle condition.
- If a power cut occurs during the wash process, the message “**CONTINUE / STOP**” appears as soon as the power supply is restored. If you press the “**STOP**” button, the wash program will be cancelled. If you press the “**START**” button, the wash program will continue beginning from the step in which the program was interrupted.

## Automatic door-lock unlocking module

- Based on the order, the machine can be fitted with an automatic module for unlocking the door lock in case of a power cut.
- If it is a case of a short term power cut, this module does not effect the operation of the machine.
- If it is a case of a long term power cut, the module unlocks the door lock. It is then possible to open the door and remove the laundry.



### **WARNING!**

**BEFORE YOU OPEN THE DOOR, MAKE SURE THAT THE DRUM IS COMPLETELY STILL AND THAT THE WATER HAS DRAINED FROM IT.**



### **WARNING!**

**THE AUTOMATIC DOOR-LOCK UNLOCKING MODULE MUST NOT BE UTILIZED ON MACHINES THAT ARE FITTED WITH A DRAIN PUMP OR REVERSE FUNCTION DRAIN VALVE.**

## How to open the door by failure

- See chapter “Unblocking of the door lock in case of emergency”.

# Operation

## First service at technical problem

N°	Failure message	Failure	Action	Fault occurrence
E2	No Drain End	Drain failure	Full Stop + tumble	Draining
E3	Tilt Fault	Safety switch activated	Full stop + tumble	Whole cycle, revolutions under the distribution revolutions level.
E4	Imbalance	Safety switch activated during the transition from distribution into spin sequence.	Skip + continue	Spin
E5	Tilt High Sp	Safety switch activated at high revolutions.	Full stop + safety time	High revolutions
E6	Door Switch	Door switch failure	Full stop + safety time	Whole cycle
E7	Door Coil	Door lock failure	Full stop + safety time	Whole cycle
E8	Door Start	Door lock failure in the beginning of cycle	Don't start	In the beginning of cycle
E9	Door End	Door lock opening failure at the end of cycle.	Don't start	End cycle
E11	No Fill	Fill failure	Full stop + request for Continue	While filling
E12	OverFill	Failure due to water overfill (water level above the pre-set value)	Full stop + tumble	After filling or during the filling procedure.
E13	No Heating	Heating failure	Full stop + tumble	While heating
E14	Heat. Time	Heating time failure	Full stop + request for continue	While heating
E15	Too Hot	Too Hot	Full stop + tumble	While heating
E21	OverFlow	Water level too high	Full stop + tumble	After filling or during the filling procedure
E24	Level Sens.	Defective level sensor	Continue + Don't start	Before start up
E25	Temp Sensor	Defective temperature sensor	Continue + Don't start	Before start up
E26	Mitsub. Code	Undefined frequency inverter error code	Full stop + tumble	Whole cycle
E27	Invert.Com.	Communication fault inverter	Full stop + safety time	Whole cycle
E28	THT time	THT Time out	Full stop + safety time	At spin sequence
E29	OV3/OP time	OV3 Time out / E.OP	Full stop + safety time	At spin sequence
E31	Load Par	Initialization fault frequency inverter	Don't start	When setting up parameters

# Operation

N°	Failure message	Failure	Action	Fault occurrence
E32	Verify Par	Verification fault frequency inverter parameters	Don't start	At loading parameters
E35	Wrong Softw	Wrong software version	Don't start	New software version
E36	Imbalance	Unbalance detection system activated.	Reduction of spinning sequence revolutions. For Info only.	Spinning sequence
E37	No Drain Spr	Drain failure at the Spray Sequence	Full stop + tumble	Spray Sequence
E38	No Recycle	The Tank with recycle water is empty	Warning at the End. Front soap dispenser Mach. only	Wash step
E39	Out of Soap	The Soap Supplies are running Out of Soap	For Info only	Wash step
E41	Service Due	Service Due Warning	For Info only Open door = reset	End cycle
E42	Connection	No Network Connection	For Info only	Data Transfer Networking
E43	Voltage Par	Wrong Voltage Range Selection	Make correct selection	Configuration menu
E44	Model Type	Incorrect selection of machine type	Make correct selection	Configuration menu
E80	SoapTimeOut	Incorrect signal for liquid detergent dispensing	Full stop + tumble.	Whole cycle
E81	No Reheat	Heating Failure	Full stop + tumble.	Wash Step (Traceability only)
E82	No Refill	Refill failure	Full stop + request for Continue	Wash Step (Traceability only)
E83	Power Interruption	No successful wash cycle termination	Info that the wash cycle has to be repeated.	Abnormal Cycle Termination (Traceability only)
E85	RTC Reset Bat	Real Time Clock, No Battery or battery low power	For Info only.	End cycle (Traceability only)
E100	Weigh No Comm	Communication fault weighing system	Full Stop Tumble	(machines with weighing system only)
E101	Weigh Low	Weight machine is too low	Don't Start	(machines with weighing system only)
E102	Weigh High	Weight machine is too high	Don't Start	(machines with weighing system only)
E103	Weigh Balance	Weight is not balanced over 4 load cell's.	Don't Start	(machines with weighing system only)
E104	Weigh Overload	Weight on individual load cell exceeds max.	Full Stop Tumble	(machines with weighing system only)
E106	Calib.Error	Weighing calibration failure	Weighing system Ultrabalance can not be used	During weighing calibration procedure

## Operation

N°	Failure message	Failure	Action	Fault occurrence
<b>E107</b>	No Weight Calib.	Weighing system Ultrabalance was not calibrated before first use	Weighing system Ultrabalance can not be used	Before start up
<b>E300-E353</b>	Mits Err	Specific Mitsubishi Inverter Alarm	Full stop + safety time	Whole cycle
<b>E500-E525</b>	Memory Err	Memory Error	Full stop + safety time	Any time
<b>E550</b>	TRACEYBILITY Write	Internal memory Error data for traceability	For Info only	Traceability function, whole cycle
<b>E551</b>	TRACEYBILITY Full	Internal Traceability memory is full	For Info only	Traceability function, whole cycle
<b>E560-E563</b>	USB Errors	Errors in communication with USB flash disk	For Info only	Only in Advanced menu Data Export/Import
<b>E600-E628</b>	Softw. Err	Software Error	Full stop + safety time	Any time

## Technical data

### Technical data

MACHINE	lb (L)	14 (65)	20 (80)	25 (105)	30 (135)	40 (180)	55 (240)	70 (280)
Inner drum								
volume	l / Ft³	65 / 2.3	75 / 2.6	105 / 3.7	135 / 4.8	180 / 6.4	240 / 8.5	280 / 9.9
diameter	mm / inch	530 / 20.87	530 / 20.87	620 / 24.40	620 / 24.40	750 / 29.53	750 / 29.53	750 / 29.53
depth	mm / inch	305 / 12.01	350 / 13.78	350 / 13.78	450 / 17.72	410 / 16.14	545 / 21.46	620 / 24.41
Drum speed								
wash	RPM	49	49	49	49	42	42	42
extraction	RPM	1165	1165	1075	1075	980	980	915
Heating								
electricity	kW	6 / 9 (4.6)	6 / 9 (4.6)	6 / 9 / 12	9 / 12	12 / 18	18	21,9
steam	bar	1 - 8	1 - 8	1 - 8	1 - 8	1 - 8	1 - 8	1 - 8
hot water	°C / °F	90 / 194	90 / 194	90 / 194	90 / 194	90 / 194	90 / 194	90 / 194
Motor size	kW / HP	0.75 / 1	0.75 / 1	1.1 / 1.48	1.5 / 2.01	2.20 / 2.95	3 / 4.02	3 / 4.02
G-factor		400	400	400	400	400	400	350
Shipping Dimensions								
Height	mm / inch	1245 / 49.02	1245 / 49.02	1345 / 52.95	1345 / 52.95	1550 / 61.02	1550 / 61.02	1550 / 61.02
Width	mm / inch	750 / 29.53	750 / 29.53	835 / 32.87	835 / 32.87	1025 / 40.35	1025 / 40.35	1025 / 40.35
Depth	mm / inch	840 / 33.01	840 / 33.01	840 / 33.01	985 / 38.78	1015 / 39.96	1150 / 45.28	1225 / 48.23
Net Weight	kg / lb	170 / 375	185 / 408	210 / 463	255 / 563	380 / 838	430 / 948	495 / 1092
Shipping Weight	kg / lb	180 / 397	200 / 441	235 / 518	275 / 606	395 / 871	450 / 992	515 / 1135
Sound level (1)								
L <sub>Aeq</sub> wash seq. / extraction seq.	dB	46 / 59	52 / 63	52 / 66	50 / 65	50 / 68	50 / 66	47 / 70
Maximum static load on floor	kN / lb	2.1 / 472	2.3 / 517	2.6 / 585	3.2 / 719	4.9 / 1102	5.3 / 1191	5.8 / 1304
Maximum dynamic load on floor	kN / lb	1.8 ± 0.5 / 405 ± 112	1.9 ± 0.5 / 428 ± 112	2.2 ± 0.5 / 495 ± 112	2.7 ± 0.5 / 607 ± 112	4.0 ± 0.7 / 899 ± 112	4.6 ± 1.1 / 1034 ± 112	5.0 ± 1.1 / 1124 ± 112
Frequency of dynamic load	Hz	19.4	19.4	17.9	17.9	16.3	16.3	15.25

(1) ISO 3744

Table 1

## Technical data

### Connections

MACHINE	lb (L)	14 (65)	20 (80)	25 (105)	30 (135)	40 (180)	55 (240)	70 (280)
Water valves connection (1)	BSP	$\frac{3}{4}$ "	$\frac{3}{4}$ "	$\frac{3}{4}$ "	$\frac{3}{4}$ "	$\frac{3}{4}$ "	$\frac{3}{4}$ "	$\frac{3}{4}$ "
Water pressure	bar / PSI	1 - 8/ 15 - 116	1 - 8/ 15 - 116	1 - 8/ 15 - 116	1 - 8/ 15 - 116	1 - 8/ 15 - 116	1 - 8/ 15 - 116	1 - 8/ 15 - 116
Recommended water pressure	bar / PSI	3 - 5/ 44 - 73	3 - 5/ 44 - 73	3 - 5/ 44 - 73	3 - 5/ 44 - 73	3 - 5/ 44 - 73	3 - 5/ 44 - 73	3 - 5/ 44 - 73
Capacity	l/min / gal/min	20/5.28	20/5.28	20/5.28	20/5.28	20/5.28 66/17.44 (2,4) 188/49.66 (3,4)	20/5.28 66/17.44 (2,4) 188/49.66 (3,4)	66/17.44 (2) 188/49.66 (3) 20/5.28 (4)
Drain valve outer ø mm / inch		76 / 3	76 / 3	76 / 3	76 / 3	76 / 3	76 / 3	76 / 3
Flow amount with drain valve	l/min / gal/min	210/55.48	210/55.48	210/55.48	210/55.48	210/55.48	210/55.48	210/55.48 2 x 210 (4) / 2 x 55.48 (4)
Drain pump with a hose internal diameter of hose	mm / inch	19 / 0.75	19 / 0.75	-	-	-	-	-
flow rate of drain pump	l/min / gal/min	36 / 9.51	36 / 9.51	-	-	-	-	-
Steam valve connection	BSP	$\frac{1}{2}$ "	$\frac{1}{2}$ "	$\frac{1}{2}$ "	$\frac{1}{2}$ "	$\frac{1}{2}$ "	$\frac{1}{2}$ "	$\frac{1}{2}$ "
Steam pressure	bar / PSI	1 - 8/ 15 - 116	1 - 8/ 15 - 116	1 - 8/ 15 - 116	1 - 8/ 15 - 116	1 - 8/ 15 - 116	1 - 8/ 15 - 116	1 - 8/ 15 - 116
General data								
Ambient temperature	°C / °F	5 to 35 / 41 to 95						
Relative humidity		30% to 90% without condensation						
Height above sea level	m / ft	up to 1000 / 3280						
Storage temperature	°C / °F	1 to 55 / 34 to 131						

Table 2

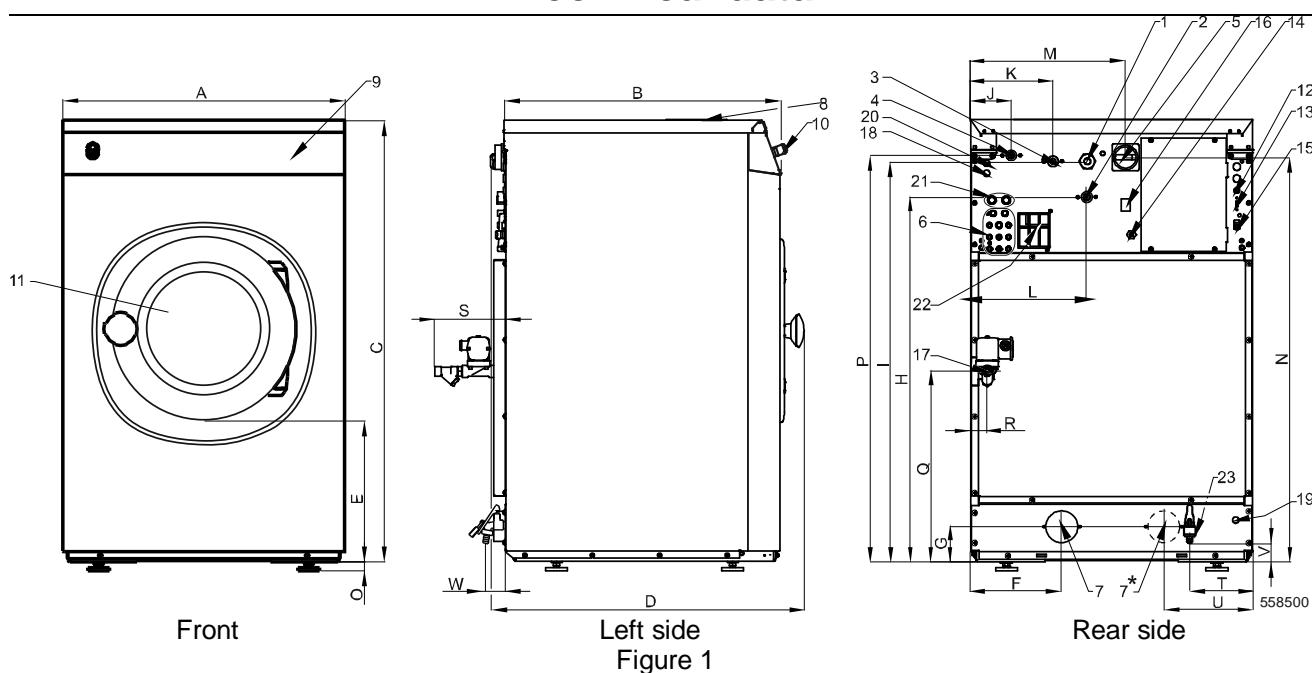
(1) (North American models: water inlet hose  $\frac{3}{4}$ " BSP  $\Leftrightarrow$   $\frac{3}{4}$ " NPT, supplied with the machine)

(2) (water pressure 1 bar / 15 PSI)

(3) (water pressure 8 bar / 116 PSI)

(4) (on request)

# Technical data



1. Electrical connection
2. Hot water
3. Cold water hard
4. Cold water soft
5. Main switch
6. Connection liquid soap
7. Drain:  
drain valve (pump), (1 x  $\varnothing 76\text{mm}$  / 3"),  
\* 70 lb / 280 L – drain valve or recycle valve,  
(1 x  $\varnothing 76\text{mm}$  / 3"), (on request)
8. Soap dispenser
9. Control panel
10. Button CENTRALSTOP
11. Door opening: 14 and 20 lb (65 and 80 L):  $\varnothing 330$ ,  
25 and 30 lb (105 and 135 L):  $\varnothing 410$ ,  
40, 55 and 70 lb (180, 240 and 280 L):  $\varnothing 460$
12. Fuses
13. USB port
14. Electrical connection to liquid soap pumps
15. PC programming connection (RS485)
16. Heating change-over switch (electric heating,  
steam heating)
17. Steam connection (steam version)  $\frac{1}{2}$ "
18. Steam valve connection (steam version)
19. Inlet of cable for discharge of water into the water  
recycle
20. Cable inlet - cable for control of the valve or pump  
of water from the water recycle (see the manual  
for water recycle)
21. Inlet of water from the recycle (external diameter 19),  
(see the manual for water recycle)
22. Air relieve
23. Drain valve  $\frac{1}{2}$ ", applicable for wash bath sample,  
(on request)

MACHINE lb(L)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
<b>14 (65)</b>	710 27.95	646 25.43	1115 43.89	740 29.13	349 13.74	230 9.05	82 3.22	914 35.98	1004 39.52	113 4.44	218 8.58	293 11.53	390 15.35	1020 40.15	24 0.94	1019 40.11	480 18.89	42 1.65	180 7.08
<b>20 (80)</b>	710 27.95	696 27.40	1115 43.89	790 31.10	349 13.74	230 9.05	88 3.46	920 36.22	1010 39.76	113 4.44	218 8.58	293 11.53	390 15.35	1020 40.15	24 0.94	1025 40.35	480 18.89	42 1.65	180 7.08
<b>25 (105)</b>	795 31.29	696 27.40	1225 48.22	795 31.29	342 13.46	230 9.05	88 3.46	1030 40.55	1120 44.09	113 4.44	218 8.58	293 11.53	475 18.70	1130 44.48	24 0.94	1135 44.68	506 19.92	42 1.65	180 7.08
<b>30 (135)</b>	795 31.29	846 33.31	1225 48.22	945 37.20	342 13.46	230 9.05	88 3.46	1030 40.55	1120 44.09	113 4.44	218 8.58	293 11.53	475 18.70	1130 44.48	24 0.94	1135 44.68	506 19.92	42 1.65	180 7.08
<b>40 (180)</b>	970 38.18	876 34.49	1410 55.51	970 38.18	477 18.77	270 10.62	108,5 4.27	1215 47.83	1297,5 51.08	113 4.44	218 8.58	293 11.53	610 24.01	1315 51.77	24 0.94	1320 51.96	490 19.29	80 3.14	90 3.54
<b>55 (240)</b>	970 38.18	1011 39.80	1410 55.51	1105 43.50	477 18.77	270 10.62	108,5 4.27	1215 47.83	1297,5 51.08	113 4.44	218 8.58	293 11.53	610 24.01	1315 51.77	24 0.94	1320 51.96	490 19.29	80 3.14	90 3.54
<b>70 (280)</b>	970 38.18	1086 42.76	1410 55.51	1185 46.65	477 18.77	270 10.62	108,5 4.27	1215 47.83	1305 51.37	113 4.44	218 8.58	293 11.53	610 24.01	1315 51.77	24 0.94	1320 51.96	490 19.29	80 3.14	90 3.54

Table 3 – layout of machine components (dimensions stated in mm / inches)

## Technical data

MACHINE lb (L)	T	U	V	W
14 (65)	203 7.99	-	67 2.64	48 1.89
20 (80)	203 7.99	-	67 2.64	48 1.89
25 (105)	203 7.99	-	67 2.64	48 1.89
30 (135)	203 7.99	-	67 2.64	48 1.89
40 (180)	203 7.99	-	67 2.64	48 1.89
55 (240)	203 7.99	-	67 2.64	48 1.89
70 (280)	203 7.99	274 10.79	67 2.64	48 1.89

Table 3 continuation – layout of machine components  
(dimensions stated in mm / inches)



# Installation

## Installation

### Transportation and unpacking

- The machine is delivered bolted onto the transport pallet and packed in a shrink-wrap foil or box.
  - Remove packing from the machine.
  - Remove front and rear panel. Remove the bolts between the machine and pallet.
  - Mount front and rear panel.
  - When the machine is lifted off the pallet: Make sure that the machine does not come down on the floor with either of the rear corners first. The side panel of the machine can be damaged.
  - Mount leveling legs.
  - Level the machine with the feet of the machine.



#### **WARNING!**

**IT IS OF UTMOST IMPORTANCE THAT THE MACHINE IS PLACED IN LEVEL, FROM SIDE TO SIDE AS WELL AS FRONT TO REAR. IF THE MACHINE IS NOT PROPERLY LEVELED, IT MAY RESULT IN OUT-OF-BALANCE WITHOUT A REAL OUT OF BALANCE IN THE DRUM.**

- Two self-adhesive rubber stop-blocks are supplied with the machine. They might be applied as paint protection when opening the door.
- Recheck the setting of the safety switch, see chapter "Maintenance and adjustments".
- The machine also comes with transport shipping braces (four plate angles between the support and the drum).
- In order to remove the shipping braces:
  - Remove front and rear panel, see Figure 2., pos.3, 4.
  - Remove both front metal transport holders, pos. 1.
  - Remove both rear transport holders, pos. 2.
- The machine may not be moved with the shipping braces removed. Save the shipping braces for future use.

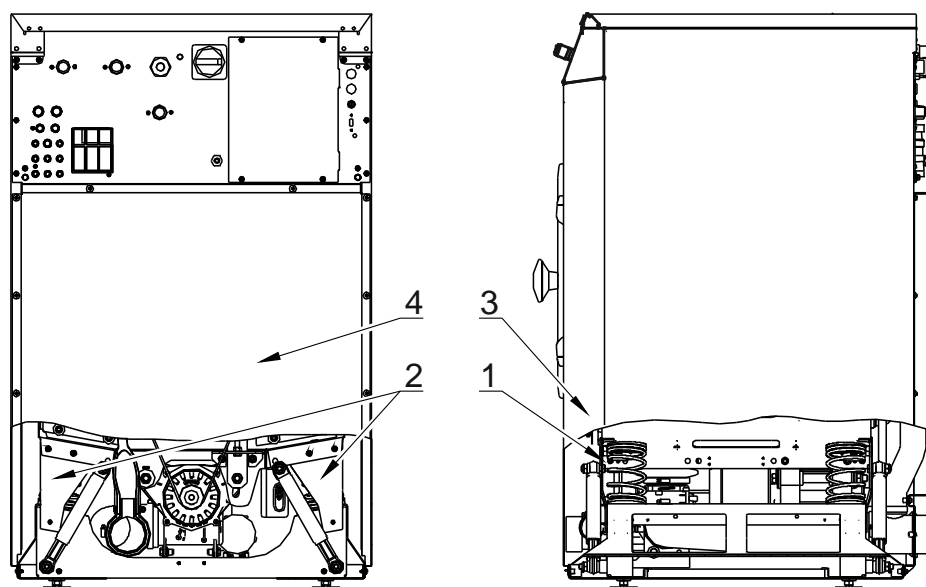


Figure 2

558501

# Installation

## Siting

- Install the machine close to a floor drain or open drain.
- In order to make installation and servicing the machine easier the following clearances are recommended:
  - At least 500 mm / 20" between the machine and the wall behind
  - And min. 20 mm / 0.79" on both sides of the machine whether installed next to the wall or other machines.

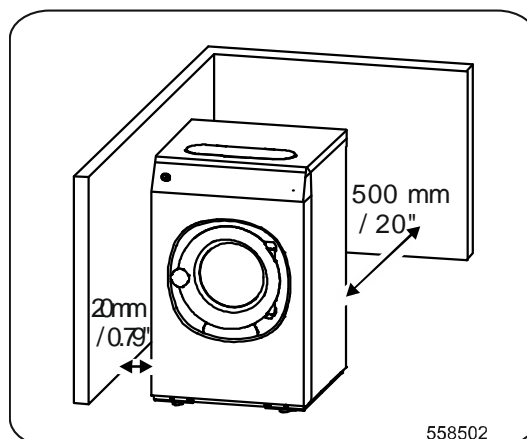


Figure 3

## Siting on the floor

- Machines do not have to be mounted by means of anchoring bolts. However; if anchoring is necessary, follow these steps:
  - Secure the machine to the floor by two anchoring bolts. The anchoring bolts are not supplied with the machine.
  - Drill 2 holes for anchoring bolts, see Figure 5. Hole diameter in machine's base is 12 mm / 0.47".
- "⊙" – Position of the leveling leg.
  - **NOTE:** After leveling is complete, tighten the nut securely against the machine's base. Refer to Figure 4.
- "○" – Drilling points for anchoring bolts and elevated base frame bolt installation.
- If necessary, place the leveling legs into a narrow U-shaped section of metal channel, so that the machine does not move during operation.

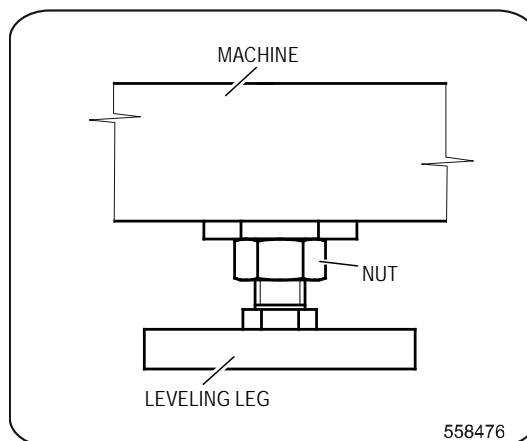


Figure 4

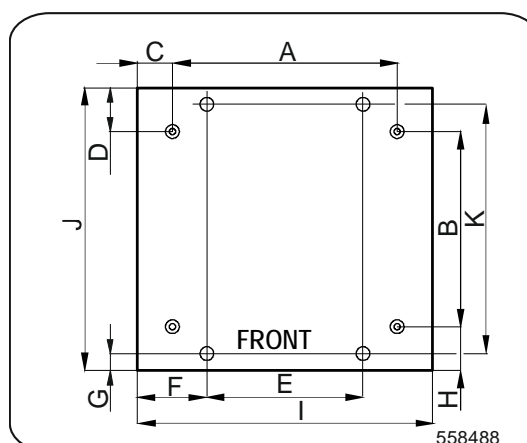


Figure 5

# Installation

Siting on the floor											
MACHINE lb (L)	A	B	C	D	E	F	G	H	I	J	K
<b>14 (65)</b>	530 20.86	394 15.51	90 3.54	129.5 5.09	375 14.76	167.5 6.59	40 1.57	118 4.64	710 27.95	641.5 25.25	550 21.65
<b>20 (80)</b>	530 20.86	444 17.48	90 3.54	129.5 5.09	375 14.76	167.5 6.59	40 1.57	118 4.64	710 27.95	691.5 27.22	600 23.62
<b>25 (105)</b>	618 24.33	444 17.48	88.5 3.48	129.5 5.09	455 17.91	170 6.69	35 1.37	118 4.64	795 31.29	691.5 27.22	610 24.02
<b>30 (135)</b>	618 24.33	564 22.20	88.5 3.48	159.5 6.27	515 20.27	140 5.51	60 2.36	118 4.64	795 31.29	841.5 33.12	680 26.77
<b>40 (180)</b>	785 30.90	560 22.04	92.5 3.64	211.5 8.32	595 23.42	187.5 7.38	50 1.96	100 3.94	970 38.18	871.5 34.31	660 25.98
<b>55 (240)</b>	785 30.90	695 27.36	92.5 3.64	211.5 8.32	670 26.37	150 5.90	50 1.96	100 3.94	970 38.18	1006.5 39.62	795 31.30
<b>70 (280)</b>	785 30.90	770 30.31	92.5 3.64	211.5 8.32	670 26.37	150 5.90	50 1.96	100 3.94	970 38.18	1082 42.60	870 34.25

Table 4 – (dimensions stated in mm / inches)

- The bottom frame of the machine shall be used for the purpose of lifting the whole machine.
- Place the machine over the two drilled holes.
- Check that the machine is seated in a perfectly level manner. Adjust with leveling legs.
- Mount the anchoring bolts in the holes drilled in the floor. Fit the washers and nuts, and tighten well.
- If necessary, prop up the machine frame so that no deformation of the frame may occur during the tightening of the anchor bolts.

## Installation on an elevated base frame

- The elevated base frame structure must be able to withstand the static and dynamic loads of the machine floor, (see machine technical data) and it must allow the machine to be seated in a perfectly level manner - see machine installation.
- Install the machine on a base without adjustable feet.

# Installation

## Installation of weighing system components

### 40, 55 and 70 lb (180, 240 and 280 L) Capacity machines

- Lift up the machine. Install two left load sensor supports and two right load sensor supports (pos.1 and 2) to the machine frame as shown in Figure 6.
- Install load sensors (3) with their rubber leveling legs (4) onto the supports.
- Check that all the supports and load sensors with rubber leveling legs are correctly placed on the machine frame and tightened.
- Place the machine in the required position.
- Check that all the rubber leveling legs of the load sensors are stable.
- Fit the sensor cables into the prepared openings with cable fixtures as shown in Figure 8, pos. 1.
- Remove the transport safety devices (transport props).
- Use a water-level to check that the lower frame of machine is positioned totally level.
- Attach hoses for water supply to the machine.
  - **NOTE:** The machine is not anchored into the floor; it stands on the load sensor feet. Take into consideration that the entire machine acts as a “measuring gauge”. Therefore, anything that you place onto the machine or anything that is in physical contact with it influences the weighing process. Make sure that the water connection, as regards the pressure in the hoses, does not interfere with the weighing. The hoses must not “pull” or “push” the machine in any direction or prop it up in any way.
- Install the covers (5), (6), (7).

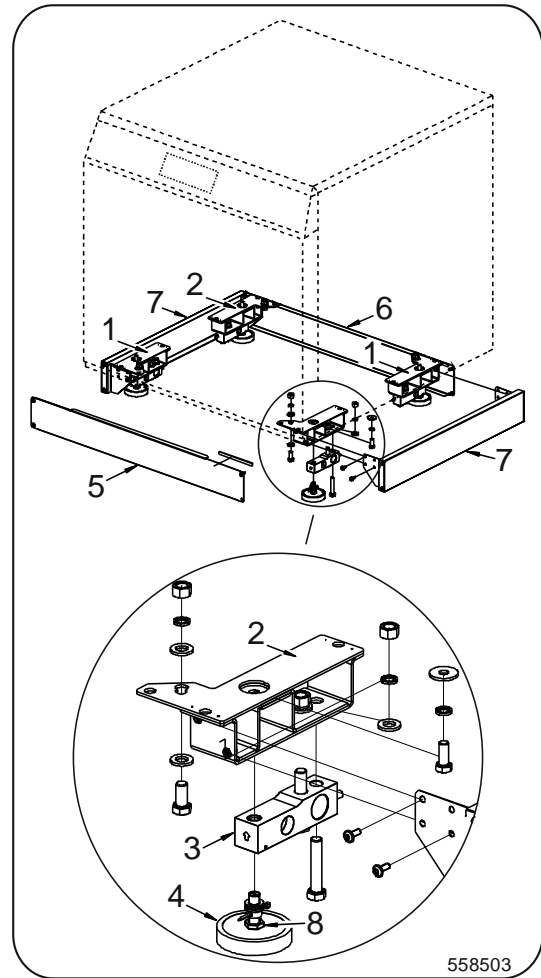


Figure 6

- Check and if necessary adjust the height of the load sensor feet so that an even load distribution among all the load sensors is ensured - see Figure 7.

#### Advanced menu → Weighing → Load cell calibration

- X1, X2, X3, X4: **10 - 40%** – load on each load sensor in (%) must be in the specified range.
- Y1, Y2, Y3, Y4 – load of each load sensor in (kg).
- In case that the load sensors are outside the specified range, it is necessary to adjust the leveling legs of load sensors. Each load sensor leveling leg can be adjusted within the range of 5mm.  
Adjustment procedure:
  1. Lift up the machine.
  2. Loosen the nut (8) and turn the leveling leg (4) in order to achieve the required position.
  3. Tighten the nut (8).
  4. Put the machine down and verify that the load applied to each sensor is within the specified range.

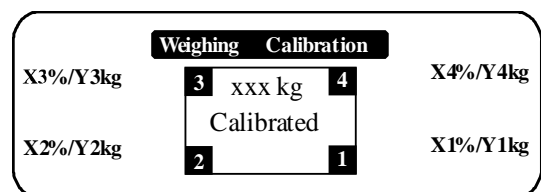


Figure 7

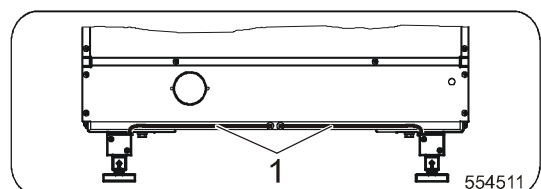


Figure 8

# Installation

## Water connections

- **NOTE - North American models:** Water inlet hose with the notches should be connected to the water supply faucet, while the side of the water inlet hose without notches should be connected to the water inlet valves. Refer to Figure 9.
- The appliance has been designed with a build-in “AB” airgap system according EN1717. Nevertheless, when potable water will be connected to the appliance an approved double check valve or some other no less effective device providing backflow prevention protection to at least fluid category three shall be fitted at the point of connections between the water supply and the appliance.
- All intake connections to the machine are to be fitted with manual shut-off valves and filters, to facilitate installation and servicing.
- Water pipes and hoses should be flushed clean before installation. After installation hoses should hang in gentle arcs.
- **All connectors present on the machine must be connected.** The table 5 shows the possible connection options, which will depend on the water types to be connected to the machine. Check the machine plates too.
- **All water connectors must be connected.** Otherwise the wash program will not function correctly.
- Hoses are to be of an approved type and grade and comply with IEC 61770.
- Machines shall be connected with new water hoses. Machines 14, 20, 25, 30, 40, 55 lb (65, 80, 105, 135, 180, 240 L) – to connect cold water, use a hose with plastic elbow. To connect hot water, use a hose with metal elbow. Re-used water hoses must not be used. Hoses must be replaced every 5 years.
- The water pressure data: see - Technical data – Connections.

Water type	Water connection		
	1	2	3
cold and hot	cold	-	hot
cold soft and cold hard and hot	cold soft	cold hard	hot

Table 5

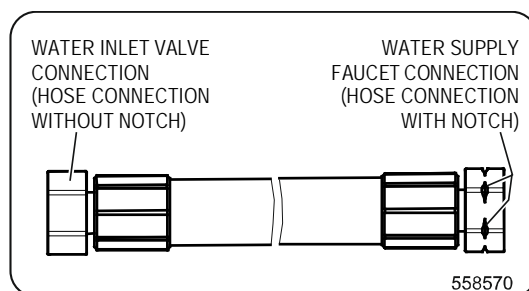


Figure 9 – North American models

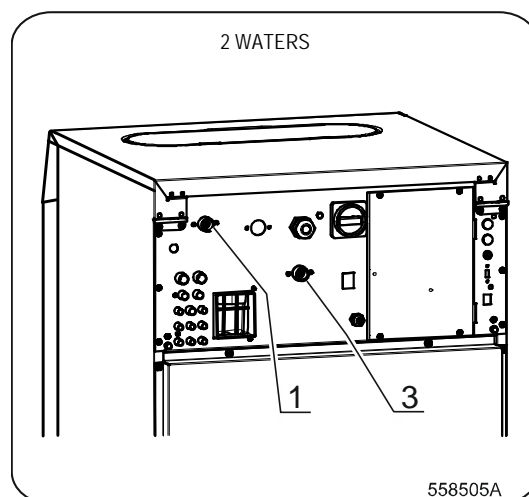


Figure 10

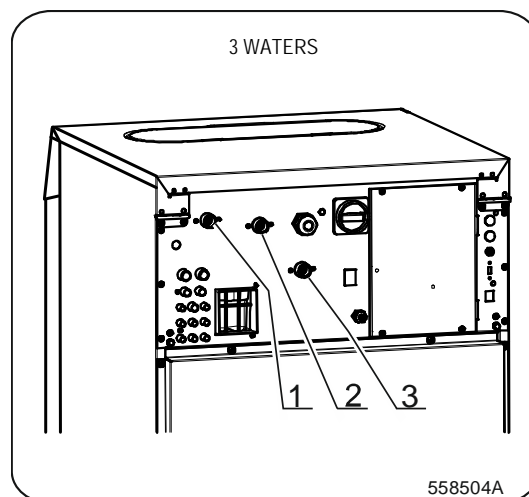


Figure 11



### WARNING!

IF THE WATER PRESSURE IS BELOW THE MIN. VALUE, THE WASH RESULT CAN NOT BE GUARANTEED FOR CERTAIN PROGRAM.

# Installation

## Water re-use connection

**⚠ WARNING!**  
**DISCONNECT THE MACHINE POWER SUPPLY!**  
**WHEN THE MAIN SWITCH IS TURNED OFF THE INLET TERMINALS OF THE MACHINE MAIN SWITCH ARE STILL UNDER CURRENT!**

- Drill out the protective screens of the water inlet from the recycle utilizing a drilling bit of 15mm / 0.59" diameter, see Figure 12. We do not recommend piercing the screens open - it could lead to blockage of the water channel.
- Inlet of water from the recycle into the machine – electrical connection:
  - Connect the control of your recycle valve or recycle pump onto the conductor of inlet valve (I5) or (I7) provided by the manufacturer. By doing so, you disconnect the valve in question from the standard function.
  - The manufacturer waives all responsibility for malfunction of the washing machine in case that a different valve than the specified "I5" or "I7" is used as the water recycle valve.
  - Fit a cable bushing into the opening (see Figure 12) and pull the cable through the bushing.
  - Connect the coil for control of the recuperated water inlet (the coil is not supplied with the machine), operating voltage 208-240V 50/60Hz).
  - Secure the cable in a suitable manner so that it is protected against being pulled out of the machine or inlet valve.
- Temperature range (°C/°F): -10/14 to 90/194.
- Maximum pressure: 8 bar / 116 PSI
- Connection: outside diameter 19mm / 0.75".
- The hose and the connector must be resistant to chemical substances which are used for the washing process. It is also possible to use a hose with enhanced performance such as the rubber EPDM hose.
- The recycling system must be fitted with a filter which must be regularly and thoroughly cleaned (based on the water quality). This cleaning prevents prolongation of filling up times and malfunction of the water valves.
- For programming method please refer to the Programming manual.

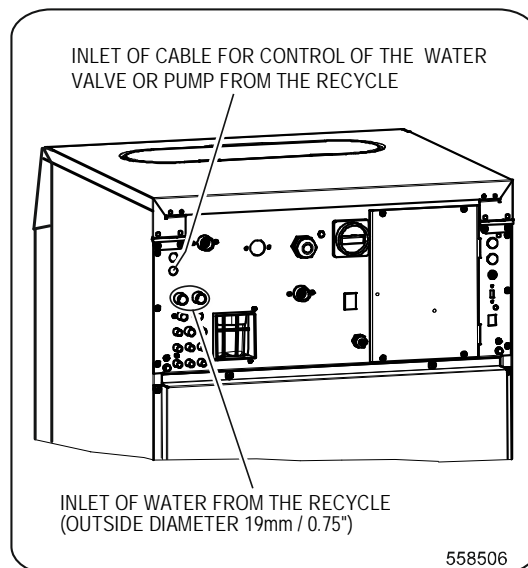


Figure 12

# Installation

## Treatment of the re-used water

- The re-used water must be filtered before entering the recycling tank. A mechanical filter must be installed which filters off small particles (fluff, buttons, paper, etc.) of sizes 0.2 mm or smaller. The denser the mesh, the better. There must also be a filter installed on the pressure side of the pump. It is also possible to install an additional, chemical filter. The manufacturer advises to consult a specialist in filter systems.

## Water recycling tank properties



### WARNING!

**IT IS PROHIBITED TO HEAT THE WATER IN THE RECYCLING TANK. THIS WOULD DISTURB THE TEMPERATURE BALANCE OF THE WASHER AND MAKE THE REMAINING CHEMICALS IN THE RECUPERATED WATER MORE ACTIVE, WHICH WOULD LEAD TO CORROSION OF THE ENTIRE INSTALLATION.**

- The recycling tank must meet the following minimum requirements:
  - The tank must be made according to national standards.
  - Tank capacity: the capacity varies depending on multiple factors, so it must be calculated by an authorized engineer. The factors are:
    1. The number of washing steps per washer, in which the water will be re-used.
    2. The programmable amount of water that will be re-used in a washing step (to find this amount, please refer to the Programming manual.
    3. The number of washers that will deliver water to the recycling tank.
    4. The use of recuperated water per washer.
- The tank must have an overflow to the sewer. Water from the sewer must not be able to flow back into the recycling tank.
- The network of pipes and hoses, the water pump and the recycling tank must be of a non-corroding material. It must be resistant to water and chemicals used for washing.
- The tank must be equipped with a system that fills the tank with clean water to a minimum required working level, in case the water level drops below this minimum. If this requirement is not met and an insufficient or no amount of recuperated water is fed into the washer, it will not function properly.
- A pump must transport the recuperated water from the tank to the washer. The requirements for the pump depend on the number and type of washers that are connected to the recycling system. The maximum pump pressure is 8 bar / 116 PSI.

## Water recycling tank properties (optional)

- This option is not obligatory. However, it is advisable to install a level switch. This level switch must be connected to the microprocessor by means of a potential-free contact, see Figure 13.
- The relay contact K1 has to close when the water level is too low. Terminal B is positioned on the left side, in the lower part of the microprocessor. Terminal A is positioned directly above terminal B. The microprocessor is positioned inside the washer. If the “Check signal recycle” parameter is set to “yes” in the configuration menu, the timer will send a signal in case that the water level of the recycling tank is too low.

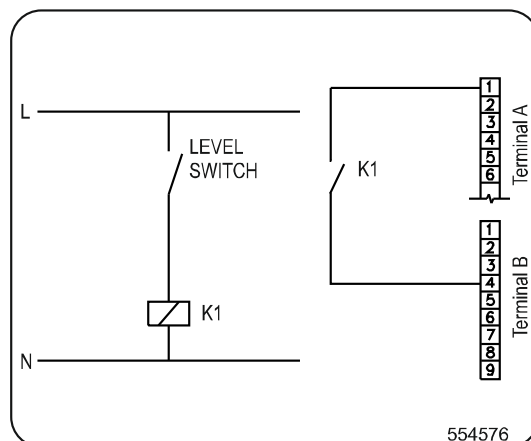


Figure 13

# Installation

## Drain connection

### Drain valve

- Connect a 76 mm (3") pipe or rubber hose to the machine's drain pipe, ensuring a downward flow from the machine. Avoid sharp bends which may prevent proper draining.
- The drainage pipe should be located over a floor drain, drainage channel.

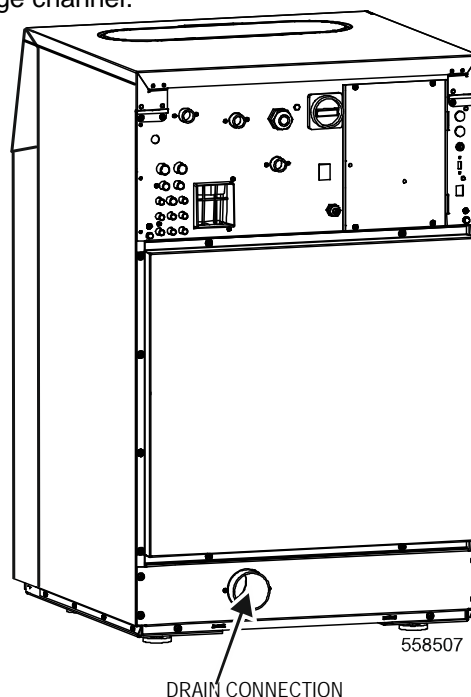
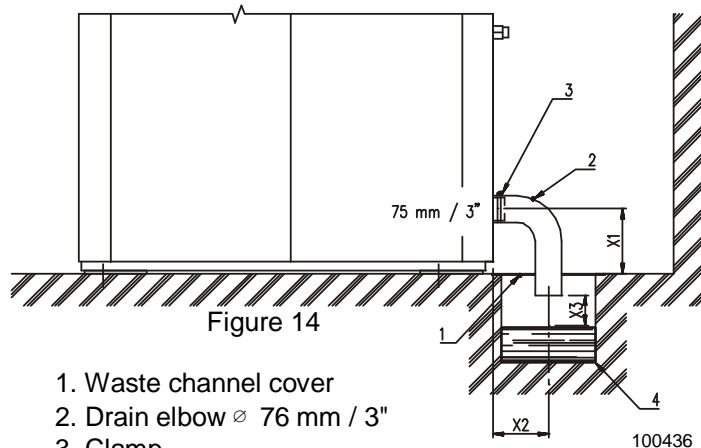


Figure 15

- Recommended distances:
  - x1 = see Figure 1, "G" + "O"
  - x2 = >100 mm / 3.94"
  - x3 = >20 mm / 0.79"
- The main drain channel-pipe must have the capacity to be able to handle the total output of all connected machines. In a drainpipe, a vent must be provided every twenty meter, Figure 16., pos.1 to assure the good working of the drain pipe. If the main drain pipe cannot be sufficiently vented, install a vent per machine. Every time a machine is coupled on the drainpipe, the diameter of the tube or the width of the waste channel must be more. See Figure 16., d1, d2, d3.
- The recommended drain pipes diameter for machines with one drain valve are:
  - d1 = 75 mm / 3" for one machine
  - d2 = 100 mm / 4" for two machines
  - d3 = 125 mm / 5" for three machines
- The diameters of drain pipe for machines with two drain valves must have dimensions suitable for double the value of water flow.

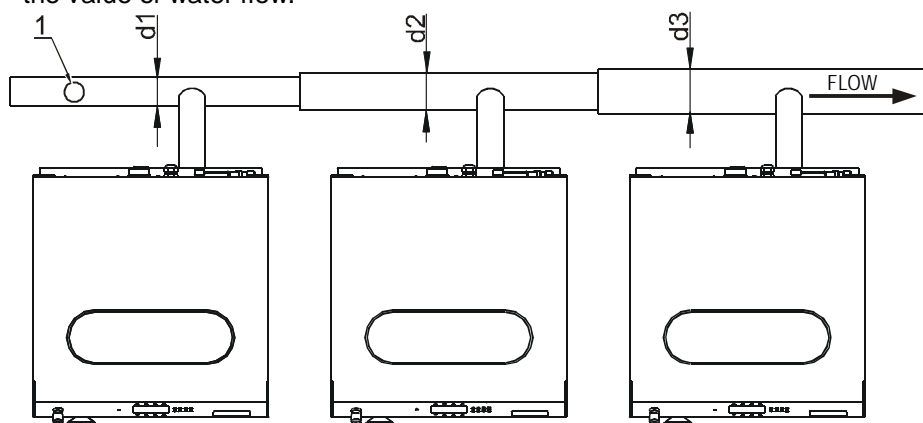


Figure 16 – Recommended drain pipe diameters



# Installation

## Drain pump

### Machines 14 and 20 lb (65 and 80L)

- Connect a flexible hose to a drain pipe in manner providing sufficient siphon effect (the hose bend must not be located lower than the water level). In order to achieve good draining, the hose must not bend at a sharp angle.

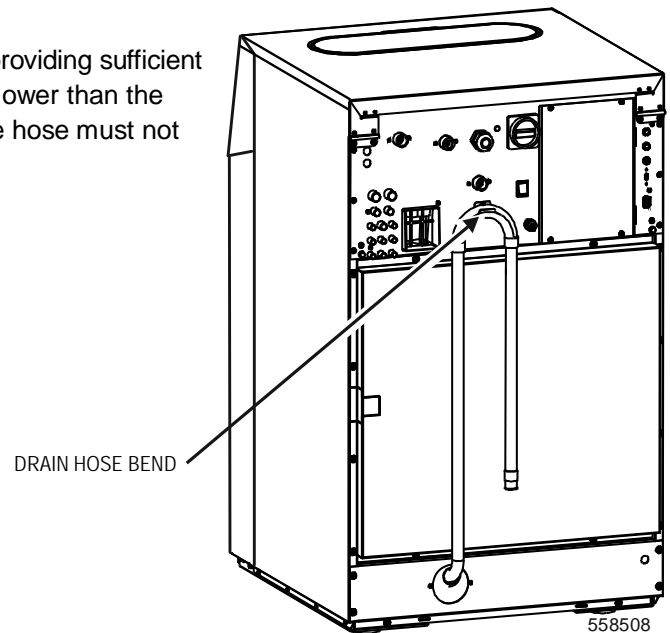


Figure 17

## Venting

**⚠ WARNING**  
**VAPOURS ESCAPE FROM THE MACHINE THROUGH THE AIR VENT OPENING!**  
**SEE FIGURES 1, POSITION 22. DO NOT COVER!**

## Steam connection

**⚠ WARNING**  
**INSTALL A STEAM SUPPLY DISCONNECTING DEVICE IN THE VICINITY OF EACH WASHER.**  
**DISCONNECT THE STEAM SUPPLY ALWAYS BEFORE ANY SERVICE OR INTERVENTION, ALLOWING SUFFICIENT TIME TO COOL DOWN THE PARTS TO AVOID INJUIRES.**

**⚠ WARNING**  
**IT IS NECESSARY TO INSERT A FILTER WITH PERMEABILITY UP TO 300 MICROMETERS IN FRONT OF THE STEAM VALVE. POSSIBLE DIRT LARGER THAN 300 MICROMETERS CAN DAMAGE THE STEAM VALVE AND CAN CAUSE LEAKAGE.**

- For dimensions of steam connection information, see Figure 1 and technical specification table.
- Use an inlet steam pressure hoses only, adapted to the steam valve with appropriate seal that is suitable for the applied working pressure. Take care that by the installation and connection of the steam supply the necessary measure are taken that accidental contact is prevented. Due to the high temperature, injury will occur.

# Installation

## Machines 14, 20, 25 and 30 lb (65, 80, 105 and 135 L)

- 1. Remove the rear cover.
- 2. Fit the holder pos. 1 with the steam valve and filter onto the rear part of the machine.
- 3. Connect the steam hose pos. 2 to steam valve.
- 4. Connect the cable pos. 3 to the coil pos. 4 of the steam valve (see the machine wiring diagram).
- 5. Fit the rear cover back to its original place.

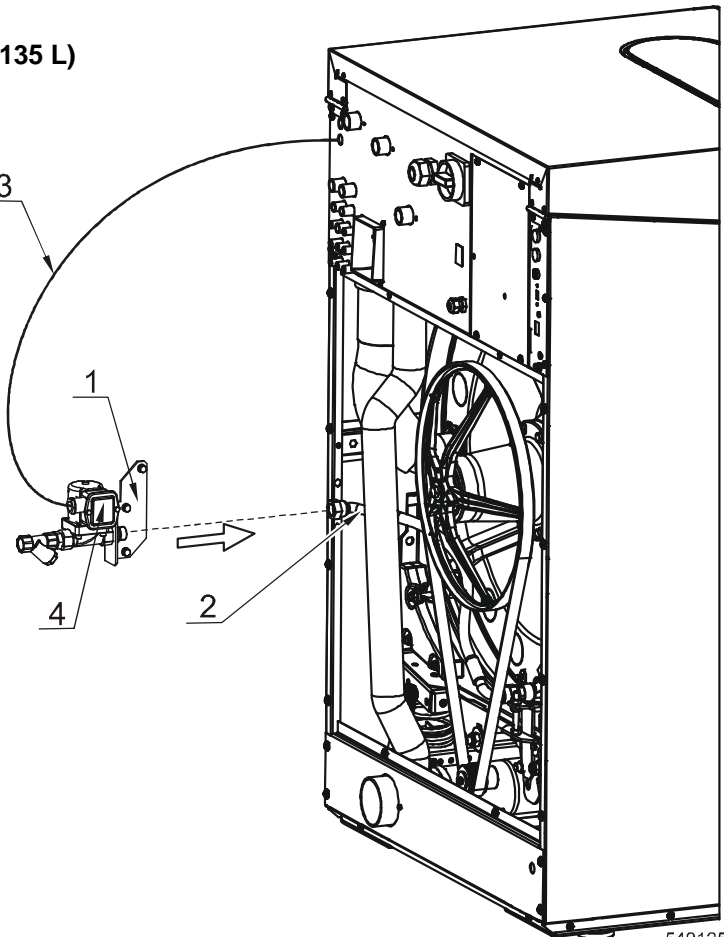


Figure 18

549125

## Liquid soap connection

- General: Always use liquid soap pumps with a flow rate that can bring the requested quantity in less than 30sec.
- **IMPORTANT:** Start pumping immediately after the water valves are open. The incoming water dilutes the liquid soap and brings it into the tub assembly.
- **CAUTION:** The machines are produced in two versions:  
Without liquid soap (standard version)  
With liquid soap (according to the request)
- Secure the location of the wiring and hoses in such a way that they can not be pinched, damaged or rubbed. Before you start to use liquid soap, check with your liquid soap supplier whether the liquid soap is harmless and inert to PP and PVC material in order to avoid a problem that manufacturer is not responsible for.
- The washer has provisions for connecting external dosing of liquid soaps. On the back side, a plastic hose connection part is present, Figure 19, pos.1, to connect the liquid soap hoses. Depending of the number of liquid soap pumps that will be used, drill holes (max. 8) of Ø 8 mm / 5/16" in the plastic hose connection part for each pump. We recommend using the left openings for connecting the pumps first and setting the flow rate of the pumps to 60 to 100 l / hour. On the plastic hose connection part is also a 3 nipples of Ø 12 mm / 1/2". Use this nipple ONLY for entering diluted soap. Drill with Ø 11.5 mm / 7/16". By default, these nipples are closed. Drill only the ones that will be used. Take care that the drill particles are carefully removed so that they can not clog up the hoses and openings.

# Installation

## **⚠ WARNING**

**CHECK THAT THE HOSE CONNECTIONS ARE TIGHT (CHECK THE CLAMPS)! ANY LEAKAGE OF CHEMICALS MAY CAUSE SERIOUS BODY INJURIES AS WELL AS SERIOUS DAMAGE TO THE WASHER. IF ONE OF THE NIPPLES ARE OPEN, CLOSE AND SECURE THE OPENING WITH AN APPROPRIATE COVER.**

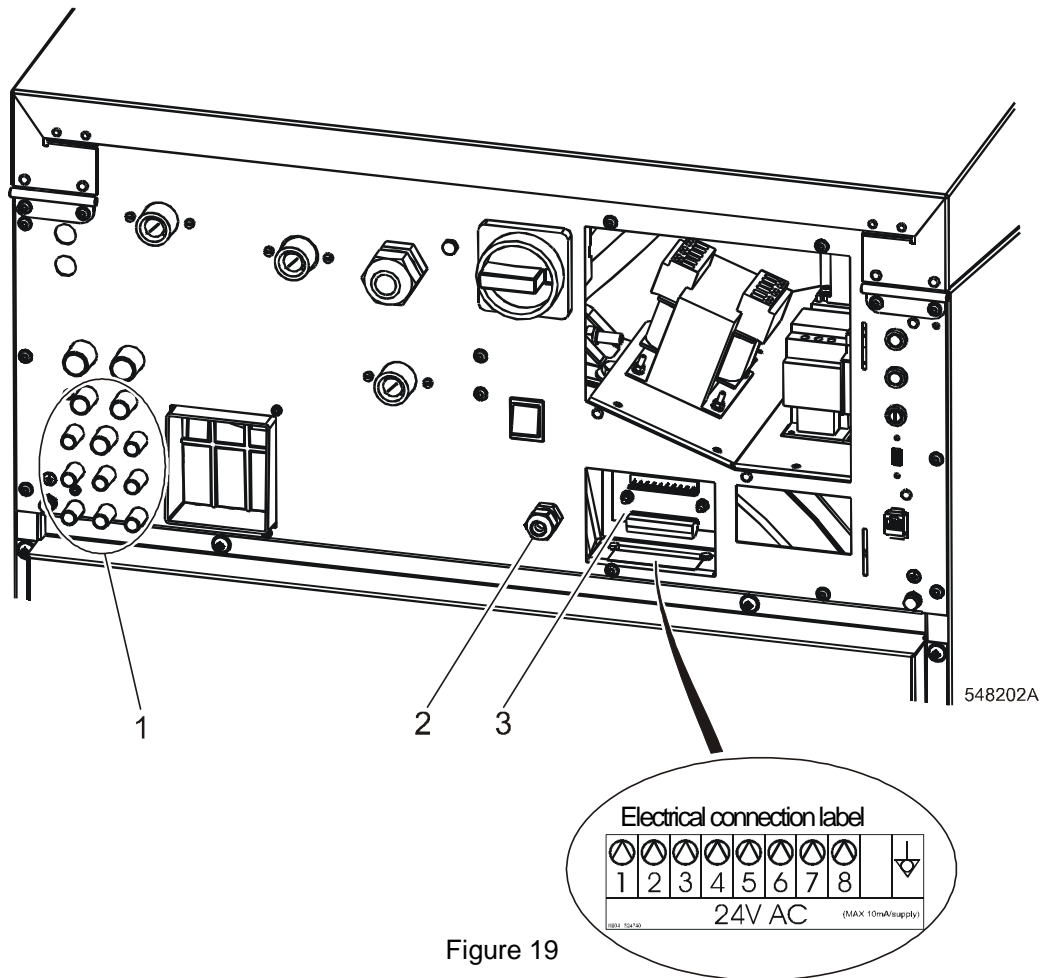


Figure 19

# Installation

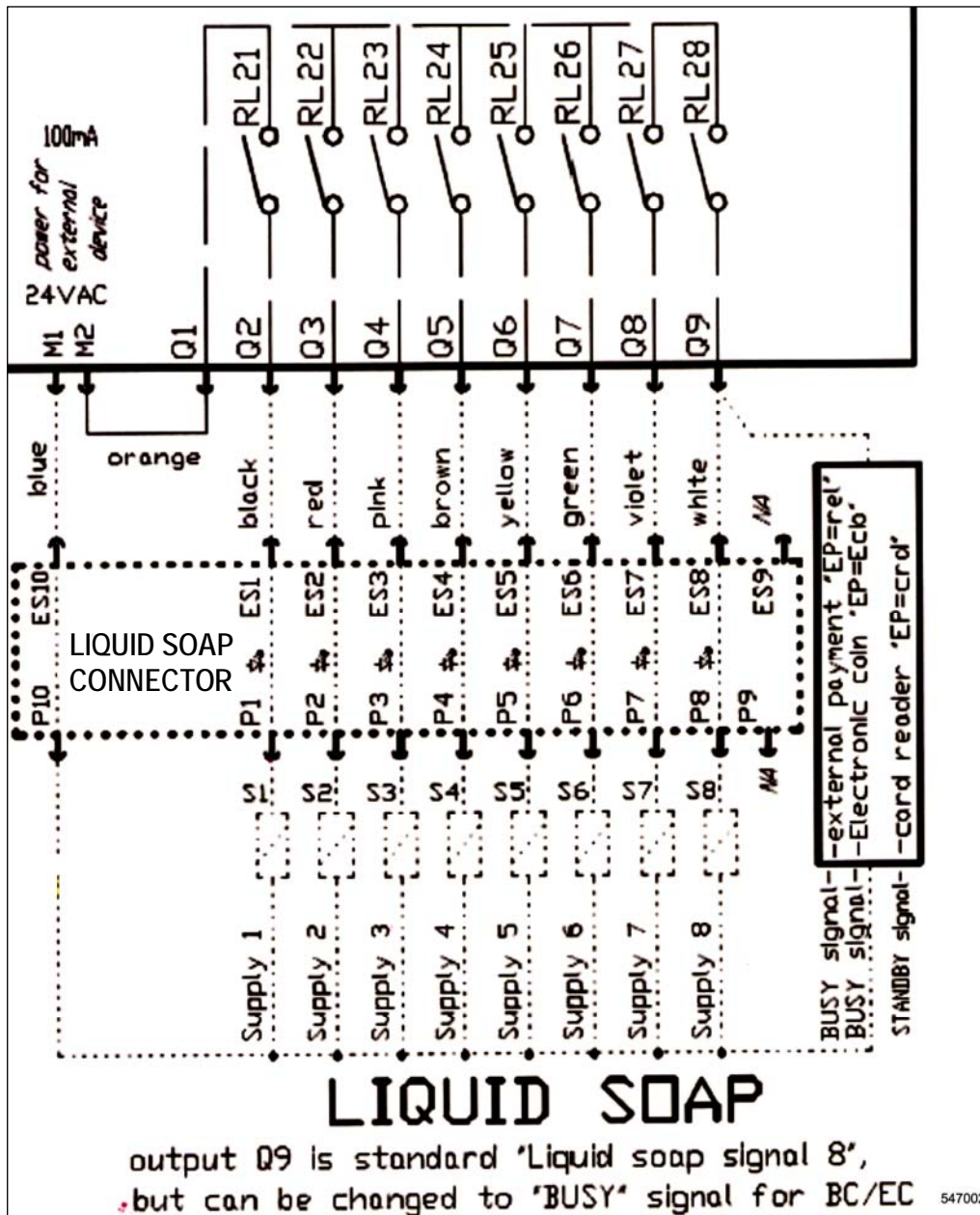


Figure 20

## Electrical connection of the liquid soap supply system

- The power supply of the liquid soap supply system has to be connected to an external electrical source. Only authorized workers with a valid qualification must execute the electrical connection on the machine according to the valid local standards. The correct connection way can be found on the wiring diagram that is located inside the cabinet in a plastic bag. Do not connect the liquid soap pump system in the washer.
- For electric connection of supply control signals is available on the back side of the machine the terminal box with LED signalization of activation of the respective pump, see Figure 19, pos.3. At the terminal box there is a label for electric connection. Detail connection of signals could be also found on the electric scheme of the machine. Signals for supply pumps control are 24V AC. Maximum current for control circuits of pumps must be limited to 10mA. Lead the cable for connection of pumps control signals through the plastic cable bushing, pos.2. After connection of conductors to the respective positions of the connector "P" (screw clamps), fix up the cable by tightening the cable bushing against disconnection and close the box with the cover. For details about liquid soap supply system programming, see Programming manual.



# Installation

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## Residual current device (RCD)

- In some countries an RCD is known as an “earth leakage trip” or “Ground Fault Circuit Interrupter” (GFCI) or an “Appliance Leakage Current Interrupter” (ALCI) or “earth (ground) leakage current breaker”.
- Specifications:
  - Tripping current: 100mA (if locally not available/allowed use a 30mA trip current, preferably selective type with small time delay set)
  - Install max. 2 machines on each RCD (for 30mA, only 1 machine)
  - Type B. There are components inside the machine which make use of DC voltages and therefore a “type B” RCD is necessary. For information only: Type B is better performance than type A, and type A is better than type AC.
- When locally allowed, there must always be installed an RCD. In some power network earthing systems (IT, TN-C,...), an RCD might not be allowed (see also IEC 60364).
- Some washer control circuits are supplied with a separating transformer. Therefore the RCD may not detect faults in the control circuits (but the fuse(s) of the separating transformer will).

## Supply protection device

- A supply protection device basically protects the machine and wiring against overloads and short circuits. As supply protection device, you can use either (glow-wire) fuses or (automatic) circuit breakers.
- See “Technical data” for the rating of the nominal current and other specifications of the supply protection device. Protection must be the “slow” type, for circuit breakers this means curve D.  
Although not recommended, if for some reason you can not use a slow type, select the protection device with 1 step higher nominal current rating to avoid disconnecting during start-up.

## Supply cable

- The supply cable is not delivered with the machine.
- Specifications:
  - Conductors with copper cores. (Refer to the Electrical Specifications charts for wire size details).
  - Stranded conductors are strongly recommended (flexible wiring) to avoid conductor breaking because of vibration.
  - **THE CROSS SECTION DEPENDS ON THE USED SUPPLY PROTECTION DEVICE. SEE TABLE 6, FOR THE MINIMAL CROSS SECTION.**
  - Route the supply cable short as possible, directly from the supply protection device to the washer without branching off.
  - No plug or extension cords: The machine is intended to be permanently connected to the electrical network.
- Connection:
  - Insert the cable through the hole in the on the rear panel, insure a strain relief (turnbuckle) is used so that the supply cable can not move.
  - Strip the conductor ends according Figure 22.
  - The protective conductor must be longer so that it is routed to the machine without tension.
  - With stranded conductors, use “wire end tubes” with an insulated sleeve (6) for L1/U, (L2/V), (L3/W), (N) conductors. Make sure there is no accidental contact, since the supply cable stays under voltage even when the main switch is off.
  - Crimp a ring terminal (eyelet) to the protection conductor for good fixation to the PE terminal.
  - Connect the supply cable conductors to the incoming terminals (main switch (1)) marked with L1/U, (L2/V), (L3/W), (N), and the terminal (copper screw) marked with PE, see Figure 23, 24.
  - Provide a sag in the cable, in front of the cable strain relief. This will avoid condensed water dripping into the machine, see Figure 23, 24.

# Installation

Power supply protection device nominal current		Min. phase conductor section in mm <sup>2</sup>	Min. Protection conductor section in mm <sup>2</sup>
Automatic circuit breakers	Fuses		
16A	10A	1,5 mm <sup>2</sup>	1,5 mm <sup>2</sup>
20A	16A	2,5 mm <sup>2</sup>	2,5 mm <sup>2</sup>
25A	20A	4 mm <sup>2</sup>	4 mm <sup>2</sup>
40A	32A	6 mm <sup>2</sup>	6 mm <sup>2</sup>
63A	50A	10 mm <sup>2</sup>	10 mm <sup>2</sup>
80A	63A	16 mm <sup>2</sup>	16 mm <sup>2</sup>
100A	80A	25 mm <sup>2</sup>	16 mm <sup>2</sup>
125A	100A	35 mm <sup>2</sup>	25 mm <sup>2</sup>

Table 6 – Manufacturer's recommended minimal conductor section

ELECTRICAL SPECIFICATIONS – MODELS OUTSIDE OF NORTH AMERICA						
Model	Code	Voltage	Cycle	Phase	Wire	Full Load Amps
<b>*Y14 (65)</b>	J	200-240	50-60	1	2 (L1, L2 or L1, N)	7.9
	P	380-415	50-60	3	3 (L1, L2, L3)	3.8
	N	440-480	50-60	3	3 (L1, L2, L3)	3.8
<b>*Y20 (80)</b>	J	200-240	50-60	1	2 (L1, L2 or L1, N)	8.1
	P	380-415	50-60	3	3 (L1, L2, L3)	3.9
	N	440-480	50-60	3	3 (L1, L2, L3)	3.9
<b>*Y25 (105)</b>	J	200-240	50-60	1	2 (L1, L2 or L1, N)	11.5
	P	380-415	50-60	3	3 (L1, L2, L3)	4
	N	440-480	50-60	3	3 (L1, L2, L3)	4
<b>*Y30 (135)</b>	J	200-240	50-60	1	2 (L1, L2 or L1, N)	13.2
	P	380-415	50-60	3	3 (L1, L2, L3)	4.2
	N	440-480	50-60	3	3 (L1, L2, L3)	4.2
<b>*Y40 (180)</b>	J	200-240	50-60	1	2 (L1, L2 or L1, N)	16.2
	P	380-415	50-60	3	3 (L1, L2, L3)	8.2
	N	440-480	50-60	3	3 (L1, L2, L3)	8.2
<b>*Y55 (240)</b>	J	200-240	50-60	1	2 (L1, L2 or L1, N)	18.6
	P	380-415	50-60	3	3 (L1, L2, L3)	8.8
	N	440-480	50-60	3	3 (L1, L2, L3)	8.8
<b>*Y70 (280)</b>	J	200-240	50-60	1	2 (L1, L2 or L1, N)	18.6
	P	380-415	50-60	3	3 (L1, L2, L3)	8.9
	N	440-480	50-60	3	3 (L1, L2, L3)	8.9

Table 7 – Electrical specifications, model outside of North America

# Installation

ELECTRICAL SPECIFICATIONS – NORTH AMERICAN MODELS								
Model	Code	Voltage	Cycle	Phase	Wire	Full Load Amps	Circuit Breaker	AWG (mm <sup>2</sup> )
*Y20 (80)	X	200-240	60	1 or 3	2 (L1, L2 or L1, N)	6.7	10	14 (2.5)
*Y25 (105)	X	200-240	60	1 or 3	2 (L1, L2 or L1, N)	9.8	15	14 (2.5)
*Y30 (135)	X	200-240	60	1 or 3	2 (L1, L2 or L1, N)	10.1	15	14 (2.5)
*Y40 (180)	X	200-240	60	1 or 3	2 (L1, L2 or L1, N)	14.2	20	12 (4)
*Y55 (240)	X	200-240	60	1 or 3	2 (L1, L2 or L1, N)	15	20	12 (4)
	N	440-480	60	3	3 (L1, L2, L3)	7.1	10	14 (2.5)
*Y70 (280)	X	200-240	60	1 or 3	2 (L1, L2 or L1, N)	16	20	14 (2.5)
	N	440-480	60	3	3 (L1, L2, L3)	7.2	10	14 (2.5)

Table 8 – Electrical specifications, North America models



# Installation

- 1. Protection conductor
- 2. Phase conductor
- 3. Phase conductor
- 4. Phase conductor
- 5. Neutral conductor
- 6. Molded tube
- 7. The stripped length of conductors

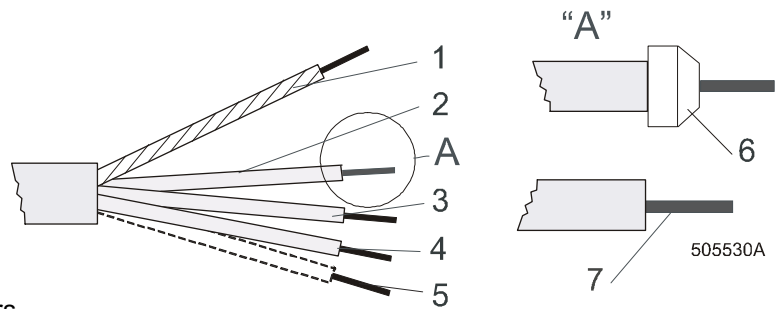
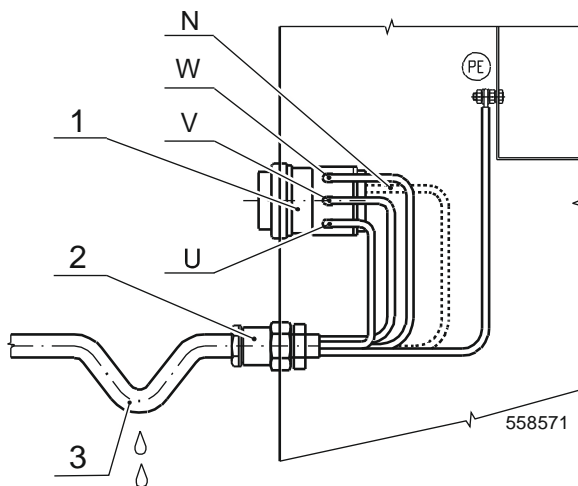
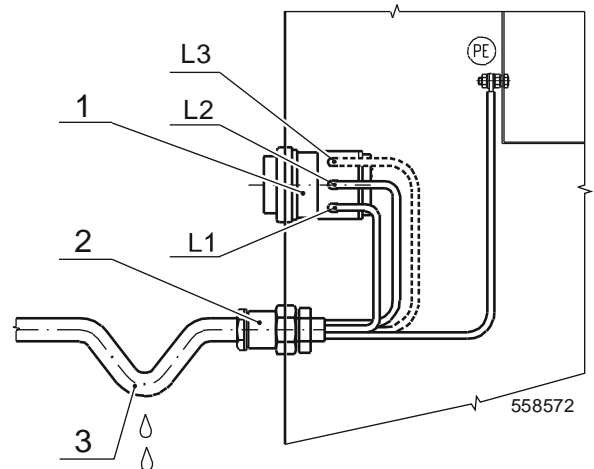


Figure 22 – Adaptation of conductor ends of supply cable

## Models outside of North America



## North American models



- 1. Main switch
- 2. Turnbuckle
- 3. Sag of inlet cable

Figure 23 – Models outside of North America

Figure 24 – North American models

## Machine protective earth connection and equipotential bonding

- Independent of the supply cable, the washer must be connected to the laundry protective earth system with a separate conductor. The protection conductor, enabling this connection, is not included with the washer. If there are other washers/appliances with exposed conductive parts, which can be touched simultaneously, make sure to make equipotential bonding between all these appliances. The external protective terminal for this purpose is located on the rear panel of the machine frame. The minimum protection conductor's cross section depends on the supply cable cross section and can be found in table 6. However, for the protection purposes with the supply cable section of min. 4 mm<sup>2</sup> we recommend to select a larger conductor section, i.e. 6 mm<sup>2</sup>.

# Installation

## Models outside of North America with single - phase connection

- Connect the electrical service's wires to the machine's electrical connection terminal as follows. Refer to Figure 26 for wiring connection details and to Figure 25 for electrical connection terminal details.

Electrical Service Wire	Machine's Electrical Connection Terminal
U	U
Neutral	N
PE	PE (Ground)

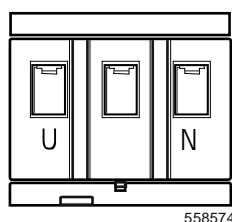


Figure 25 – Electrical connection terminal block

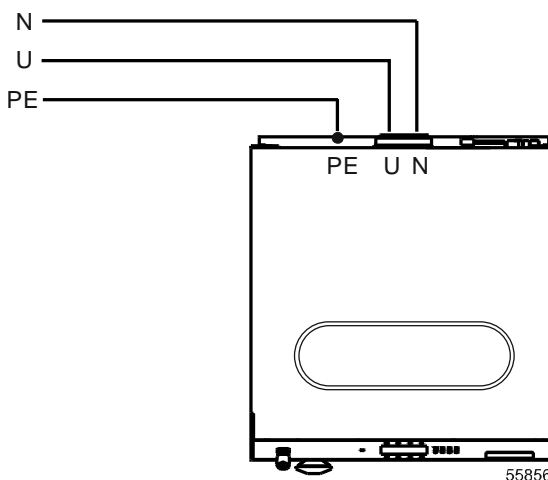


Figure 26 – Models outside of North America with single - phase connection

## Models outside of North America with three - phase connection

- Connect the electrical service's wires to the machine's electrical connection terminal as follows. Refer to Figure 28 for wiring connection details and to Figure 27 for electrical connection terminal details.

Electrical Service Wire	Machine's Electrical Connection Terminal
U	U
V	V
W	W
PE	PE (Ground)

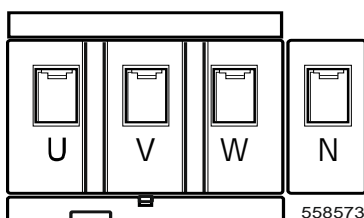


Figure 27 – Electrical connection terminal block

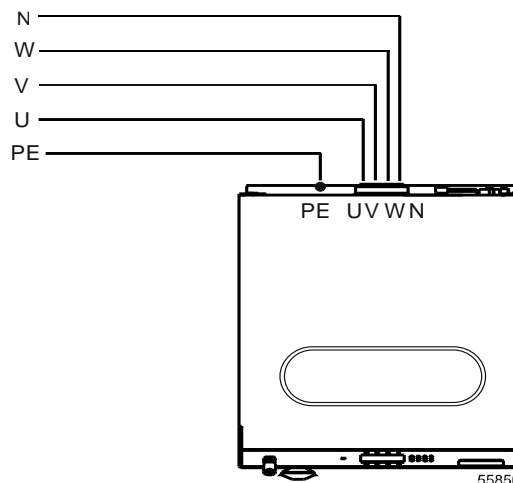


Figure 28 – Models outside of North America with three - phase connection

# Installation

## North American models with single - phase connection

- Connect the electrical service's wires to the machine's electrical connection terminal as follows. Refer to Figure 30 for wiring connection details and to Figure 29 for electrical connection terminal details.

Electrical Service Wire	Machine's Electrical Connection Terminal
L1	L1
L2	L2
PE	PE (Ground)

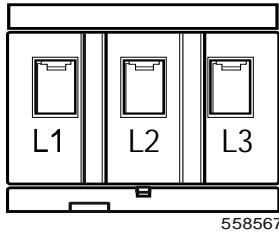


Figure 29 – Electrical connection terminal block

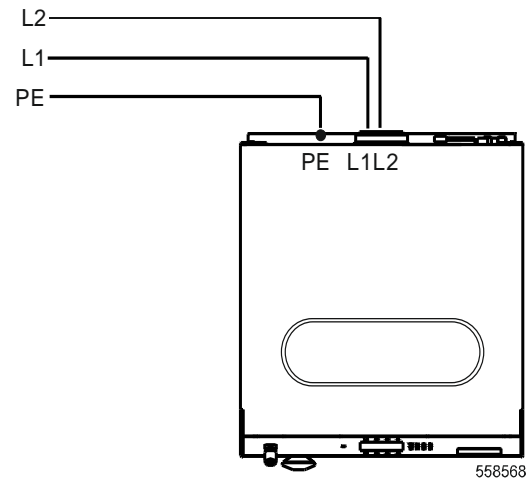


Figure 30 – North American models with single-phase connection

## North American models with three - phase connection

- Connect the electrical service's wires to the machine's electrical connection terminal as follows. Refer to Figure 31 for wiring connection details and to Figure 29 for electrical connection terminal details.

**NOTE:** If a “Stinger Leg” is present on a Delta 3-phase configuration, this line must be connected to L3.

Electrical Service Wire	Machine's Electrical Connection Terminal
L1	L1
L2	L2
L3	L3
PE	PE (Ground)

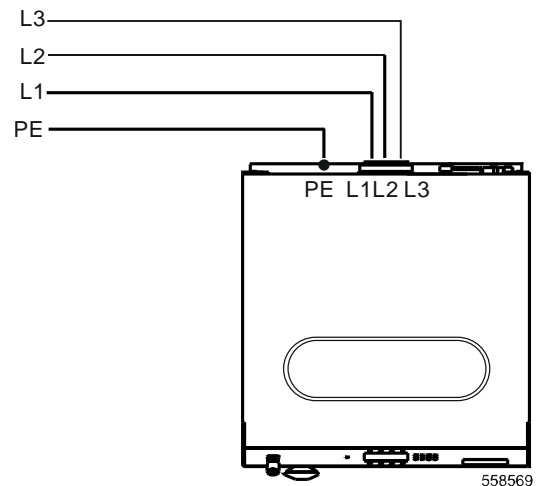


Figure 31 – North American models with three – phase connection

# Maintenance and adjustment

## Maintenance and adjustments

### **WARNING!**

**ALWAYS FOLLOW SAFETY INSTRUCTIONS! DO NOT BYPASS ANY SAFETY DEVICES OR THEIR PARTS. ANY INTERFERENCE TO THE MACHINE FUNCTIONS AND CONSTRUCTION ARE PROHIBITED! USE THE PROPER CHEMICAL AGENTS WHICH AVOID CALCIUM SEDIMENTS ON HEATING ELEMENTS AND OTHER MACHINE PARTS. DISCUSS THIS ISSUE WITH YOUR SUPPLIER OF WASHING PRODUCTS. THE MANUFACTURER OF THE MACHINE IS NOT RESPONSIBLE FOR THE DAMAGE OF HEATING ELEMENTS AND OTHER MACHINE PARTS DUE TO CALCIUM SEDIMENTS. DO NOT OPERATE THE MACHINE WITH BROKEN / MISSING PARTS OR OPENED COVERS! BEFORE MAINTENANCE WORK DISCONNECT THE MACHINE POWER SUPPLY! WHEN THE MAIN SWITCH IS TURNED OFF THE INLET TERMINALS OF THE MACHINE MAIN SWITCH ARE STILL UNDER CURRENT! THAT IS THE WAY TO AVOID INJURIES.**

- When replacing any parts of the machine, exchange them with original parts obtained from your dealer or ordered through the spare parts manual.

### Checking and maintenance daily

- Remove the linen or other parts (paperclips, needles, ...) that are left lying in the drum to avoid injuries and damage to the rubber door seal, seals, glass etc.
- Clean the door seal from any remaining detergent and other foreign matter. **Do not use solvents, acids or grease to clean the rubber door gasket!**
- Clean the top and body when water or detergent traces are on the machine. Use a damped cloth, do not use abrasive cleaners. Dry with a soft cloth.
- Supply dispenser must be cleaned at the end of each working day. Remove sediments inside the reservoir by flushing with water.
- Check water and possible steam inlets for leakage.
- At the end of the working day, open the machine door to allow airing out the machine and to prolong the door gasket life service. We recommend to shut off all electrical power inlets and main water inlets.

### Checking and maintenance every three months

- Check the bearing house for leakage.
- Check if the drain valve is not leaking during the wash process. It is also important that the valve opens properly afterwards (drain valve opens when electrical power falls out). Wash out the drain if the water doesn't drain fluent.
- Check for the belt tightness or possible damage.
- Check the tightness of the bolts according to chapter "Tightening moments".
- Check visually all hoses and connection inside the machine for leaking.
- Make sure that the control components are protected against moisture and dust during the clean up. Wipe and clean up the machine inside.
- On machines with electric heating check the tightening of the contacts of heating elements terminals and other power terminals (main switch, fuse disconnectors, contactors).
- In order to increase the service life of the door rubber sealing, treat the sealing surface by applying a glycerine-based impregnating agent.

## Maintenance and adjustment

### Checking and maintenance every six months

- The filters in the water connection at the valves need to be cleaned. Turn off the tap. Unscrew the hoses at the back of the appliance. Take out the filter at the center with pointed pliers, clean and re-insert. When re-attaching the hoses, make sure that the seals are seated correctly. Check water inlets for leaks. Tighten the connections or replace the seals of the inlet hose if necessary.

- If your machine is fitted with a drain pump, make sure that the pump provides normal flow rate during draining. The drain pump can be cleaned only when it becomes clogged/choked with foreign bodies such as buttons, hairpins etc. Before the cleaning procedure, drain all the water from the machine. Then disconnect the machine from the power supply by removing the plug from the socket.

Remove the front panel of the cabinet by unlocking the 2 bolts, Figure 32, pos.1.

Slightly turn the pump lid, pos. 2 until water starts flowing out. Be careful to catch this water. Then completely unscrew the lid and remove the foreign objects. After the cleaning procedure, screw the pump lid, pos.2 back on, and fit back the front panel of the cabinet.

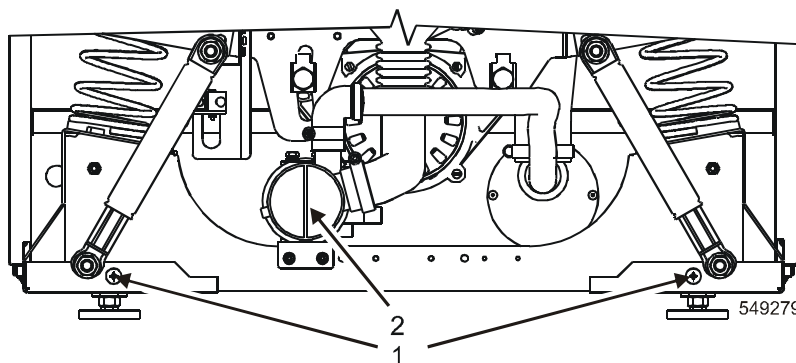


Figure 32



#### **WARNING!**

**BEFORE REMOVING TOP OR BACK PANEL OF THE MACHINE, SWITCH POWER OFF AND WAIT FOR AT LEAST 10 MINUTES. BEFORE STARTING INSPECTION OF FREQUENCY INVERTER, CHECK FOR RESIDUAL VOLTAGE ACROSS MAIN CIRCUIT TERMINALS + AND -. THIS VOLTAGE MUST BE BELOW 30VDC BEFORE YOU CAN ACCESS THE INVERTER FOR INSPECTION.**

- Remove dirt and dust, clean, and verify functionality from:
  - the cooling fin of the inverter
  - the motor cooling fins
  - the internal ventilator of the inverter (if present)
  - the external ventilator (if present)

### Replacement of door rubber

- Open the door. Remove the door glass with rubber from the door frame by pushing it towards the drum. Do it carefully, do not damage the glass.
- Remove the gasket from the glass.
- Place a new rubber gasket with wider groove on the glass with the edge up.
- Place a smooth cord in the groove all around. Tighten up the margin by cord and fit the unit to the door opening. Hold one end of the cord firmly on the door. Pull the other cord end towards the center of the glass so the rubber edge can properly fit into it.
- Apply a small amount of silicone in the place between the door frame and the rubber sealing – in the upper and lower parts of the frame. Make sure the silicone is not pushed over the door sealing outline when the door is closed. Leave the door closed until the silicone cures.
- **Important note:** There is a possibility that after replacing the door seal the door seal pressure on the door lock side and hinge side can be too high. If this situation occurs, run the Wash program 1 without any laundry.

## Maintenance and adjustment

### Adjusting of safety switch

- The safety switch is an important component which must - if correctly adjusted - stop the machine when excessive movement and shaking occur due to an unbalance caused by improper distribution of linen in the washing drum, or when the amount of laundry exceeds the machine capacity.
- Setting the safety switch without laundry inserted in drum:

14, 20, 25 and 30 lb (65, 80, 105 and 135 L):

X = 5 - 15 mm / 0.2 - 0.59"

40, 55 and 70 lb (180, 240 and 280 L):

X = 0 - 10 mm / 0 - 0.39"

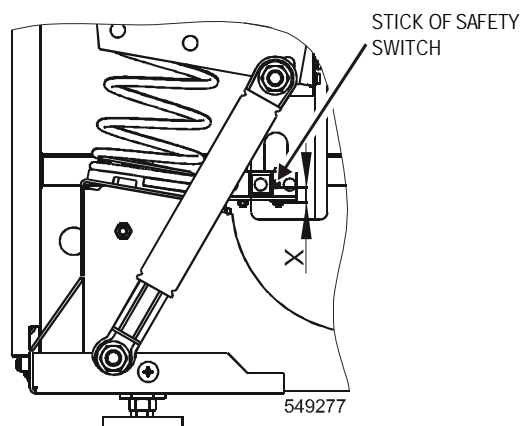


Figure 33

The X dimension represents the distance between the lower edge of the lug and the stick of safety switch, see Figure 33.

**⚠ WARNING!**  
**DO NOT USE THE MACHINE IF THIS FUNCTION DOESN'T WORK PROPERLY!**  
**THIS FUNCTIONAL TEST CAN ONLY BE EXECUTED BY A QUALIFIED TECHNICIAN WITH PROPER AUTHORIZATION.**

### Belt replacement and adjusting tension

**⚠ WARNING!**  
**MAKE SURE THE MACHINE IS DISCONNECTED FROM POWER SUPPLY BY USE AND SECURE THE DISCONNECTING DEVICE.**

**⚠ WARNING!**  
**TO CHANGE THE BELTS: NEVER USE A CROWBAR, SCREW DRIVER OR ALIKE TO TAKE OFF THE BELTS OVER THE PULLEY!**

- On a new machine and after a belt replacement, make an inspection of the belt tightness:
  - After first 24 hrs of operation
  - After first 80 hrs of operation
  - Every 6 months or every 1000 operation hours - which ever comes first.
- The belts are accessible from the rear of the machine. If the belts are too tight or too loose, the durability will be shortened. If too loose they can be slipping on the pulley and can cause a noisy operation and generate excessive wear with fast breaking as consequence. In such cases correcting the belts tension is necessary, see the recommended values below.
  - 14 and 20 lb (65 and 80 L) : 67-70 Hz
  - 25 lb (105 L) : 65-68 Hz
  - 30 lb (135 L) : 79-83 Hz
  - 40 lb (180 L) : 64-69 Hz
  - 55 and 70 lb (240 and 280 L) : 72-75 Hz

# Maintenance and adjustment

## Water filters

- Machines are equipped with filters on water inlets. It is necessary to clean up the filters occasionally to avoid a prolongation of filling the machine with water. Intervals of cleaning depend on the quality of the water, for example foreign particles in the water line.



### **WARNING!**

**BEFORE YOU START CLEANING THE WATER FILTERS, CHECK IF ALL WATER INLET TO THE MACHINE IS CLOSED.**

## Tightening moments

- Standard torques are used on the machines - with the exception of the torques in the locations specified below:
  - Bolts securing the door lock M5 – 2.5 Nm / 1.84 lbf.ft
  - Central bolt of the door handle M6 – 8.8 Nm / 6.49 lbf.ft
  - Turning mechanism of the door handle 3.5 - 3.8 Nm / 2.58 - 2.80 lbf.ft
  - Bolts securing the door hinge, front panel M6 – 8.8 Nm / 6.49 lbf.ft
  - Spring holder bolts M8 – 10 Nm / 7.38 lbf.ft
  - Bolts of the dampers M10 – 24 Nm / 17.70 lbf.ft
  - Motor holder bolts M12 – 45 Nm / 33.19 lbf.ft
  - Bolts of the weight M8 – 26 Nm / 19.18 lbf.ft
  - Bolts of the tightening flange of the external tub: M8 – 12 Nm / 8.85 lbf.ft – 14, 20, 25 and 30 lb (65, 80, 105 and 135 L)  
M8 – 26 Nm / 19.18 lbf.ft – 40, 55 and 70 lb (180, 240 and 280 L)

## Replacement washer fuses

### Fuse values

- The correct values of fuses can be found in the vicinity of the fuse holders and on the electrical scheme and delivered with the machine. When a fuse is blown, you can replace it with the same value but in **NO** case a higher value. If the fuse blows again, do not change it, but find the cause of the failure.
- Contact your commercial distributor for help if necessary.

# Trouble shooting aids

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## Trouble shooting aids

### Unblocking of the door lock in case of emergency

- If the power blackout takes too long, you can make an emergency unblocking of the door lock. The emergency door opening has been described as follows:

#### **WARNING!**

**BEFORE THE EMERGENCY DOOR OPENING TURN OFF THE MACHINE MAIN SWITCH!**

**NEVER OPEN THE DOOR WHILE DRUM IS STILL RUNNING!**

**NEVER OPEN THE DOOR IF “TOO HOT” IS INDICATED! RISK OF BURN OR SCALD INJURIES!**

**NEVER OPEN THE DOOR IF THE MACHINE PARTS FEELS TOO WARM!**

**NEVER OPEN THE DOOR, UNTIL THERE IS NO WATER IN THE DRUM! IN THE OPPOSITE CASE, IT WILL FLOW OUT AFTER OPENING THE DOOR.**

- Verify if all condition are present to safely open the door.
- Gently push the washing unit to back.
- Put your fingers over the edge of the front panel on the door lock side.
- First push the emergency door opening button, only then turn the door handle right.
- Open the door if all safety conditions are fulfilled.

### Error indication shown on display

- See chapter “First service at technical problem”.
- See Programming manual, chapter “Troubleshooting”.

### List of recommended spare parts

- Find more detailed information and order codes in the spare parts catalogue for individual machines at your dealer.
  - drain valve
  - 2-way inlet valve
  - 3-way inlet valve
  - 4-way inlet valve
  - steam valve
  - door lock
  - fuses
  - thermostat sensor
  - motor contactor
  - heating contactor
  - heating element
  - belts
  - door seal



# Putting the machine out of service

## Putting the machine out of service

### Disconnecting the machine

- Switch off the external electric power inlet to the machine.
- Turn off the main switch on the machine.
- Shut the external water or steam inlet to the machine.
- Make sure that the external electric power and steam inlets are shut off. Disconnect all electric, water or steam inlets.
- Insulate the external electric power inlet conductors.
- Equip the machine with a sign "OUT OF SERVICE".
- Unscrew nuts (bolts) fixing the machine to the floor.
- During transportation follow the instructions stated in chapter "Transportation and unpacking".
- In case the machine will never be used again, secure it so that injury of persons, damage to health, property, and nature is avoided. Make sure enclosing of persons or animals inside the machine cannot occur, injury of persons by moving or sharp parts of the machine, possibly operating fills, (e.g. remove the door, secure the drum against turning, ... and similar.)
- **BE CAREFUL, FALLING DOOR AND GLASS CAN CAUSE INJURIES!**



### Machine disposal



#### **WARNING!**

**TAKE ALL NECESSARY ACTION AND PRECAUTIONS WHEN DOING DISASSEMBLY OF THE WASHER TO AVOID INJURIES BY GLASS OR SHARP METAL EDGES.**

### Possibility of the machine disposal by the specialized company

- Information concerning the WEEE-directive (Waste Electrical and Electronic Equipment, for European Union member states only):
  - For the production of the machine that you have purchased, natural resources are being reclaimed and used. The machine can contain substances which are dangerous for health and environment.
  - When you dispose of your machine, to avoid spreading of these substances in our environment and to reduce the pressure on our natural resources, we encourage you to use the collection, reuse and recycle system of your region or country. These systems reuse or recycle most of the components.
  - The symbol "crossed out bin on wheels ()" invites you to make use of these systems.
  - If you wish more information concerning the systems for collection, reuse or recycling of disposed machines, you can take contact with the competent administration of your region or country (waste management).
  - You can also take contact with us for more information concerning the environmental performances of our products.
  - Please, consider that the WEEE directive is generally only valid for household machines. In some countries professional machines are added, in others not. Therefore the symbol () may not be present.
  - Info for dealers: Due to the diversity of the national legislations, manufacturer can not take all the measures to be in accordance with all national legislations of each member state. We expect that each dealer who imports our appliances into a member state (and puts it on the market) takes the necessary steps to be in rule with the national legislation (as the directive requires).

### Possibility of the machine liquidation by own potential

- It is necessary to sort out the parts for metal, non-metal, glass, plastics etc, and bring them to recycle places. The sorted out materials has to be classified in waste groups. Offer the sorted waste to the company which is competent for further treatment.

